American Aviation

Incredible But True

WE COULD hardly believe our eyes, but there it was in black and white. Sure enough, the great General Electric Company with no apparent good reason is engaging in insidious anti-airline propaganda.

It's in a booklet issued by GE's locomotive and car equipment divisions, Erie, Pa., called "Tote That Bale," a saga of transportation. The booklet is merely a reproduction of an educational illustrated lecture available for showing to groups of people "wishing to know more about the public transportation system." But the whole thing is railroad propaganda of a type far beneath the dignity of a large responsible industrial corporation.

by W. W. P.

The "illustrated lecture" starts out very well—all about how man has developed one means after another of lightening his transportation burdens. It praises the railroads, which is quite in order, but then it starts in on commercial aviation with a vengeance. Just read this as a sample:

"At first glance airplanes would seem to be an ideal way to transport goods. The air is free and requires no maintenance. However, the cost of equipment, plus the work of keeping goods in the air, plus expensive terminal facilities limit air transport primarily to premium services. The out-of-pocket cost of air freight to the actual shipper is at least five times that for rail freight. Add to this the cost of airport operation paid through taxes and man in total pays a very high price in man hours for every pound of freight that goes by air."

Typical railroad propaganda. But move on to the next slide and hold your breath:

"Today the airplane is a key item in our national defense. Development and improvement must go on, and today this military phase dwarfs the commercial. In 1949 alone Congress authorized three billion dollars for air preparedness. During the same year commercial airlines spent less than 100 million for planes. From a defense standpoint *there is little reason why those who today use commercial air service should not pay the whole bill.*" (Italics ours).

Just where does General Electric get off with a misleading bit of rubbish like this? But there's more to come:

"Commercial aviation is now a mature thriving industry that has proved its worth to man. Why continue shaping the future of man's latest transportation tool around shaky subsidies such as the one that pays airlines 6½ cents to carry a piece of mail that the railroads carry for 1/15 the cost and provide a traveling post office as well? To

(*Turn to Page 6*)

Scintilla Quarter-Century Veteran

Thomas Z. Fagan, one of the four founders of Scintilla Magneto Division of Bendix Aviation Corp., which has celebrated its 25th year at Sidney, N. Y. Fagan's aviation experience dates back to World War I and his association with Scintilla to 1922, the year after the Swiss-made magneto was introduced to the American market. In administrative and sales and service positions, he has served a major role in developing the aviation market for Scintilla products.

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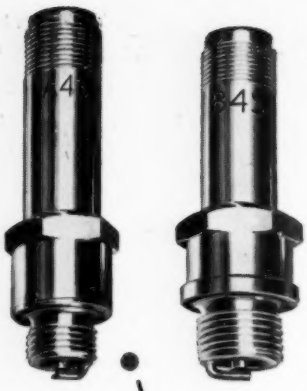

14MM AND 18MM
SHORT REACH SHIELDED

The Auto-Lite A4S and B4S Aircraft Spark Plugs are medium priced for light aircraft use. These plugs, combined with shielded harness, reduce radio interference, help get dependable operation at lower costs. The famous Auto-Lite one-piece construction of these plugs permits sale below prices of other shielded plugs.

18MM AUTOMOTIVE TYPE

New low cost aircraft spark plug especially designed by Auto-Lite for light plane use. Here is a high quality 18MM Aircraft Spark Plug with automotive type electrodes—built to give long life and low cost service.

18MM SHORT REACH SHIELDED

The SH2K Aircraft Spark Plug was especially designed by Auto-Lite to give long life service under the most severe operating conditions. Suitable for higher power engines requiring a superior type of shielded spark plug up to 1,000 H.P. Money cannot buy a better shielded spark plug.

AUTO-LITE *Aircraft* SPARK PLUGS

C.A.A. approved for engines as specified

18MM SHORT REACH UNSHIELDED

Auto-Lite developed the 18A-1 for the most rigid requirements of civilian aircraft. This precision-made 18MM plug has ball type terminal, multiple electrodes, one-piece shell design, corundum insulator.

NEW RESISTOR PLUG REDUCES RADIO, RADAR INTERFERENCE

The new Auto-Lite Resistor Spark Plug reduces radio communication and radar interference normally caused by ordinary spark plugs. Get smoother performance — money-saving gas economy — improved starting in cold weather. Install this sensational plug on all your ground equipment.

THE ELECTRIC AUTO-LITE COMPANY

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Auto-Lite Spark Plugs—Patented U.S.A.

A request on your company letterhead will bring your copy of our special Aircraft Spark Plug Catalog packed with useful information such as latest C.A.A. and Engine Manufacturer's type specifications, service instructions and other vital facts.

American Aviation

THE AIR INDUSTRY'S PIONEER INDEPENDENT MAGAZINE

NEWS SECTION

Volume 14 Number 17

November 13, 1950

a LOOK at the WEEK

CAA expects to know this week how much money it will request from Congress for first year's operation of prototype testing law. CAA, incidentally, has received no requests as yet to test any specific plane.

•

National Production Authority has selected the man to head its important aviation section, but won't make the announcement yet.

•

Aviation gasoline will go on the critical list if hostilities in Asia spread.

•

First of next year may see freight rate increase by most airlines.

•

CAB and CAA have given National Production Authority the general picture on priority needs of airlines for planes and spares. NPA will try for proposed solution, which will be cleared through Air Coordinating Committee before adoption.

•

Municipal airport officials are resisting Air Force attempts to base National Guard jet units at their fields because they fear runway, taxiway and apron damage from jet fuels, blast and heat. AF is emphasizing that this type of damage is very remote due to improvements in engine designs and operating practices.

•

Ironic situation: CAA successfully fought off cutbacks in 1951 funds for installing common system of air navigation and traffic control, but now finds it will have serious trouble getting electronic and other equipment. Reason: CAA isn't eligible for Defense Order ratings. Possibility: Air Force may take over procurement for CAA.

•

Increase on Nov. 1 in air parcel post rates has already produced noticeable drop-off in carriage of large packages and of parcels traveling short distances. Increase was sharpest in these two categories.

•

CAA is shying away from requirement for use of two-way radio on all planes entering control zones of controlled airports, at least until some type of traffic formula has been developed and tested. Meanwhile, it will encourage civil plane owners to install two-way radio while it is still possible to obtain equipment.

Civil Training Specifications

An indication of what will be expected of civil contractors who will train Air Force pilots is seen in specifications released by Air Materiel Command covering operation of the first base to be opened—Greenville AFB, Miss.

Civil contractors interested in operating the training field for the 15 months starting Jan. 10, 1951, must submit bids by Dec. 4 to Air Materiel Command, Wright-Patterson AFB, Attn: MCPPXG55, Dayton, O.

A total of 449 basic flight cadets will enter Greenville in eight classes and will receive about 96,573 hrs. in T-6 aircraft. Preflight class of 134 will enter the base four weeks before the contractor takes over and will be ready for flight training in April. Cadets will receive 130 flying hours each, including night and instrument flying.

Following is a summary of what AF will furnish and what is expected of contractor:

Air Force: Will rehabilitate the inactive field and turn it over to contractor in operating condition. Military training and supervision, and inspection of base operations will be responsibility of military staff of 73 officers and men. Will supply T-6 planes, the base and facilities, aircraft fuels and lubricants, maintenance, crash, tower and weather equipment.

Contractor: Will maintain and operate base, maintain aircraft, give cadets academic and flight instruction, provide civil personnel, including instructors, and handle messing, base security and post exchange.

Civil Instructors: Will be given eight-week standardization course at Craig AFB, Ala. Ground school instructors will receive one month's on-the-job training at other AF bases prior to assuming duties at Greenville.

Consideration: Primary factor being considered by AF in selecting contractor will be previous experience operating military flight training bases, and current status operating a civilian flight school.

How many AF contracts will be awarded is not known at this time. AF said some time ago it would contract for civil training of 1,350 cadets. With 449 slated for Greenville, two more bases could handle the total. However, some AF officers have indicated that AF expansion may require an upward revision of this total.

NAL-PAA Stock Deal Reported Off

Although National Airlines' officials refuse to comment or confirm, reliable sources state that NAL's board has decided to withdraw agreement reached with Pan American World Airways last year for purchase by PAA of 367,790 shares of NAL common stock. It is reported that agreements with W. R. Grace & Co. and Panagra remain in effect. Through various stock purchases, PAA would eventually have held 30% of NAL's outstanding stock and Grace 18%.

Whether withdrawal of PAA stock agreement also means that NAL will not offer interchange of equipment with PAA is not known.

Navy to Take Eastern's 17 DC-4's

The Navy has recalled four of Eastern Air Lines' DC-4's which have been on lease to the airline since the end of the war, and will take the remaining 13

starting next spring. The four cargo-types were taken over last month. The Navy had originally planned to recall the 13 passenger planes almost immediately, but a compromise was worked out under which EAL will return two in April, two in May, and three per month in June, July and August. To replace the planes, EAL may have to buy or lease some DC-4's, although the company is scheduled to receive a number of new Lockheed L-1049 Constellations next year.

Effect of Elections

With one notable exception, last Tuesday's national elections saw the return to Congress of all Senators and Representatives who hold important positions affecting aviation.

Exception was Sen. Millard Tydings (D., Md.), who was defeated. He had been chairman of the important Armed Services Committee, which handles military aviation. Slated to succeed Tydings as chairman is Sen. Richard B. Russell (D., Ga.), a leading proponent of the 70-group Air Force.

Senate: Re-elected was Sen. Pat McCarran (D., Nev.) chairman of the Commerce subcommittee of Senate Appropriations Committee. Not up for reelection were Sen. Edwin C. Johnson (D., Colo.), Interstate and Foreign Commerce Committee chairman, and Sen. Owen Brewster (R., Me.), ranking Republican member of that group.

House: Re-elected were Carl Vinson (D., Ga.), Armed Services Committee chairman: Robert Crosser (D., Ohio), chairman of Interstate and Foreign Commerce; Charles A. Wolverton (R., N. J.), and Carl Hinshaw (R., Calif.), first and second ranking Republicans on that committee; Lindley Beckworth (D., Texas), head of transportation subcommittee of Interstate and Foreign Commerce; George Mahon (D., Tex.), head of armed services subcommittee of House Appropriations; John J. Rooney (D., N. Y.), chairman of Appropriations' Commerce subcommittee, and Karl Stefan (R., Neb.), its ranking Republican member.

Affecting aviation and all other business in the matter of taxes and labor relations will be some other Senate changes. Defeat of Sen. Scott Lucas (D., Ill.), majority leader, may result in that post going to Sen. Joseph C. O'Mahoney (D., Wyo.), a strong proponent of excess profits tax legislation. Sen. James E. Murray (D., Mont.), one of labor's strongest supporters, is expected to head the Labor and Public Welfare Committee, a post vacated by defeat of Sen. Elbert Thomas (D., Utah).

Until they are assigned to committees, it is not possible to tell which of the new members of Congress will concern themselves directly with aviation.

MANUFACTURERS

16 Liaison Entries: The following 16 companies have signified intentions to submit lightplanes for Air Force's new liaison plane competition, which opens Dec. 3 at Wright-Patterson AFB, Dayton, O.: Ryan Aeronautical Co., Helioplane Corp., Taylorcraft Inc., Cessna Aircraft Co., Fletcher Aviation Corp., Piper Aircraft Corp., de Havilland Aircraft of Canada Ltd., Bellanca Aircraft Corp., Aero Design and Engineering Corp., Montagu Aircraft Co., Monocoupe Airplane and Engine Corp., Meyers Aircraft Co., Goodyear Aircraft Corp., Mooney Aircraft Inc., Aerobat, and Aquaflight.

New Goodyear Plant: Goodyear Tire and Rubber Co. will reactivate its war-time aircraft plant at Litchfield Park, Ariz., a former Convair B-24 modification center and PBY component manufacturing plant. Goodyear will produce plane components and air envelopes for lighter-than-air ships. Company is also spending $1,000,000 for 100,000 sq. ft. addition to Lincoln, Neb., plant.

More L-1049's: Lockheed Aircraft Corp. is negotiating contract with KLM Royal Dutch Airlines for sale of several L-1049 Constellations, the elongated version.

Charitable Contributions: Manufacturers working under government cost-plus-fixed-fee contracts may charge the government for contributions to national charities, the Court of Claims has ruled in the case of Commercial Iron Works Inc., Portland, Ore. Navy originally approved company's claims but General Accounting Office disallowed them. Supreme Court must still act on Court of Claims' judgment.

Convair's Future: Consolidated Vultee Aircraft Corp. must decide, in determining its future role as a manufacturer of civil aircraft, whether to make a clean break now in the direction of turbo-prop planes or continue to improve conventional types, according to **Floyd B. Odlum,** board chairman. Lack of suitable turbine-driven engines will probably dictate the answer, he added.

New Company: Physical assets of Gem Ware Mfg. Co., 1521 Compton Ave., Los Angeles, have been bought by **Frank E. Gaines,** founder of Aerol Co., now a subsidiary of Lockheed Aircraft Corp. Aircraft and hydraulics castings will be produced under the name of the Gaines Co. Household utensils will continue to be made on a limited scale.

People: **John Dykstra,** Ford Engine Division's vice president, will be plant manager of company's new Chicago plant which will build Pratt & Whitney R-4360 engines under license . . . **Fred T. Smye** has been elected executive vice president and a director of A. V. Roe Canada Ltd.

PLANES & EQUIPMENT

New F-86E: North American Aviation's F-86E, newest edition of jet fighter series, which has made first flight at Muroc, features new controls of advanced design, including an "all-flying tail." Horizontal stabilizers are linked with elevators for coordinated movement. Controls are wholly powered from an independent power source to provide more positive control. "Irreversible control" permits the "flying tail" and ailerons to be held at given settings as positioned by the pilot with no tendency to neutralize as air loads bear upon them during flight.

Jeep Helicopter: Plans for the first "jeep" helicopter designed for the armed forces have been virtually completed by Rotor-Craft Corp., Glendale, Calif. The two-rotor craft will carry five persons. **Gilbert Magill,** president, said the Heli-Jeep will advance the general design of an experimental tandem rotor helicopter designed by his company for the Air Force after the war.

XC-99 Load Tests: A series of high load lifting test flights is being flown by Consolidated Vultee XC-99, sister ship of B-36, from Kelly AFB, San Antonio. Cargo payloads of over 100,000 lbs. per trip are being hauled and the plane has grossed as high as 315,000 lbs. on some flights.

HUP-1 Autopilot: First production helicopter to be fitted with Navy's recently-developed automatic controls will be Piasecki HUP-1.

MILITARY

Command Inactivated: Military Air Transport Service's West Coast Air Lift Task Force, the Pacific airlift operating unit, will be inactivated Nov. 16, and

(*Continued opposite page* 74)

Travel Queen of 1950

More Americans have traveled overseas in 1950 than in any previous peacetime year. And the most startling increase has been in the number who have gone by air. More tourists have actually traveled by plane than by ship!* And nearly a quarter of a million people have flown the oceans in Boeing Stratocruisers.

These great twin-deck airliners, in service only a few months when 1950 began, have established new standards of comfort in travel by air. They are spacious, with ample room to move about in the main-deck cabin and the luxurious lower-deck lounge. Rest-room facilities are large and well-appointed. Modern galleys permit the serving of hot, tempting meals.

Air and altitude conditioning aboard the Stratocruiser are the finest ever developed for any aircraft. Like the deep, soft, specially designed seats, indirect lighting and soundproofing, they add to passenger comfort—make Stratocruiser travel not only the fastest, but one of the world's most luxurious forms of travel.

People who can afford to travel as they like, as well as those of modest means, choose the swift, economical Stratocruiser that speeds them over the oceans in hours. But beyond that, they know Boeing's record of staunchness and dependability. They know the integrity that goes into the design, engineering and manufacture of all Boeing airplanes.

*Based on latest available information from U. S. Immigration and Naturalization Service.

Boeing has built fleets of Stratocruisers for these forward-looking airlines:

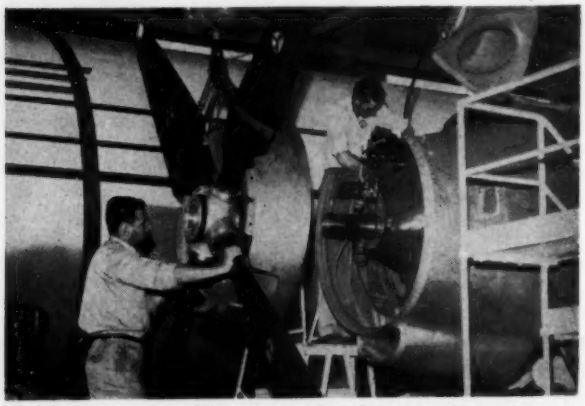
PAN AMERICAN WORLD AIRWAYS • NORTHWEST AIRLINES

UNITED AIR LINES • BRITISH OVERSEAS AIRWAYS CORPORATION

For the Air Force, the B-50 Superfortress, B-47 Stratojet and C-97 Stratofreighter.

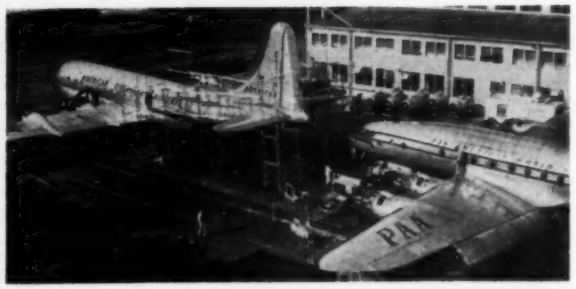
BOEING

News In Pictures



Getting Ready—The Convair-Turboliner is shown here as it is fitted with the full feathering, reversible Aeroproducts propeller. The new turbine propeller is 13½ feet in diameter and will absorb the 2,750 horsepower of the Allison 501 (T-38) turboprop engine which powers the modified Convair Liner. Note the aft part of the spinner attached to the propeller, also the nacelle access door shown open at top. Initial flight of the Turboliner is scheduled before the end of the year.

Harmon Trophy—Among the recipients of the Harmon International Trophy was Lt. Gen. James H. Doolittle (left), former leader of the Eighth Air Force and the raid on Tokyo. Gen. Doolittle is here pictured talking to Secretary of the Air Force Thomas K. Finletter (right) and Gerard B. Dobben, executive secretary of the Aviation Writers Association. Others who were given the Harmon Trophy by President Truman included Jacqueline Cochran, wartime organizer and commander of the WASPS, and Rear Admiral Charles E. Rosendahl, noted lighter-than-air authority.



Colors Change—Following completion of the American Overseas Airlines-Pan American World Airways merger, two former AOA planes, a Boeing 377 and Lockheed Constellation, are shown undergoing a change of paint schemes at PAA's Miami overhaul base.

American Aviation

THE AIR INDUSTRY'S PIONEER INDEPENDENT MAGAZINE

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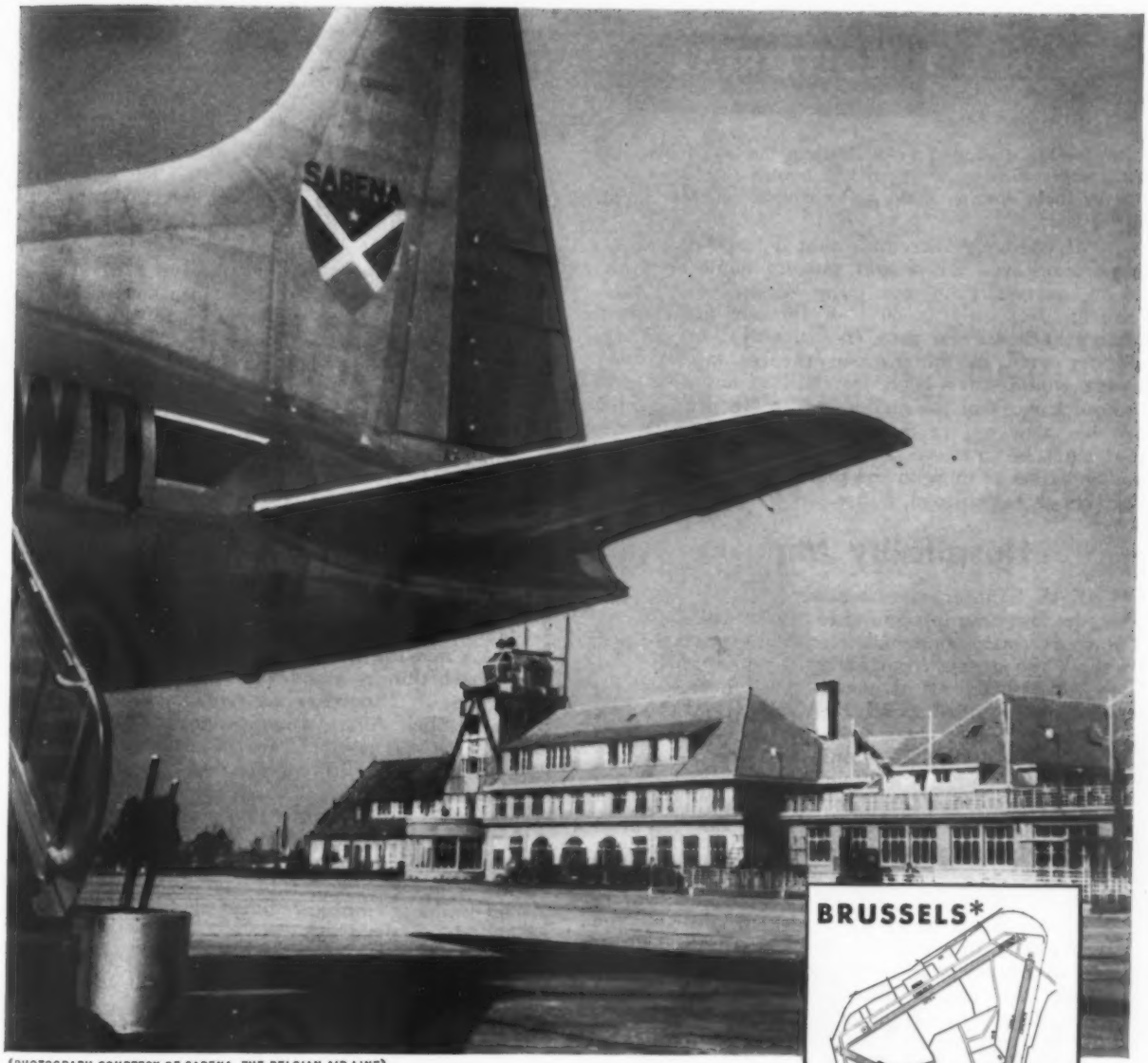

(PHOTOGRAPH COURTESY OF SABENA, THE BELGIAN AIR LINE)

A Good Sign to Fly to . . .

Brussels National Airport, located close to the Belgian capital, is fully equipped to handle air traffic in large volume and of all varieties. Here as elsewhere along the airways of the world, aircraft owners and operators rely on Esso Aviation Products and services. Research and development constantly improve Esso Aviation Products in anticipation of the ever-changing requirements of modern aviation. The Esso winged oval symbolizes petroleum products of uniform, controlled quality backed by more than 40 years of aviation experience.

**At Brussels National Airport and throughout Belgium, the marketer of Esso Aviation Products is Esso Standard (Belgium).*

ESSO EXPORT CORPORATION, AVIATION DEPARTMENT, 25 BROAD STREET, NEW YORK 4, N. Y.

many the speed of air service is worth the actual cost. In fairness to everyone, however, this burden should be carried by those desiring speed, and not apportioned to every taxpayer."

It is simply incredible that a large industrial corporation like GE would put its name to such drivel, especially in the guise of an educational lecture. Not only is 80% of the air mail being carried at a service rate (no subsidy), but every military man in the Korean theater knows that Korea would have been lost had it not been for the quick work of the airlines. The GE propaganda can be answered in many ways. The only thing that can't be answered is why GE sticks its neck out and tries to mislead the public for an extremely partisan, i e., railroad, cause.

Hospitality Minus

THE U. S. international airlines played host for the first time last month to the International Air Transport Association and everybody worked hard to show the guests from abroad a good time. But the U. S. inflicted on its guests from other countries a 52-minute political speech by Vice President Alben Barkley that set a new low record for misguided efforts at hospitality. Not only was the speech far too long (evidently the Veep thought length was compensation for his $2,000 expense check) but completely out of place at an IATA affair. The non-U. S. airline people made little secret of their dislike of having U. S. politics forced on them in such boring fashion.

Even the U. S. people squirmed, although the sponsors should have known better in the first place. Down in history will go the remark after Barkley finished, "I'm still for Eisenhower," which a U. S. aircraft executive said in loud enough voice to be heard by almost everyone present. U. S. members of IATA should feel grateful that they are not inflicted with such domestic political matters when they attend annual meetings in other countries. Why they chose to do it when the U. S. was the host is a mystery.

Nyrop of CAA

THE ACCLAIM which accompanied the appointment of Delos W. Rentzel as CAB chairman overshadowed an equally good appointment in Donald Nyrop as CAA Administrator. Nyrop's background of experience in aviation has been good. His record is excellent. Since he was Rentzel's deputy in CAA the change-over in administrators means a continued stable policy for the agency. A better choice could not have been made.

Flight Plan: U.S.A.

AFTER a year of study and preliminary surveys, American Aviation Publications has put into the local service and airport field on permanent assignment a pilot and plane with an immediate objective of flying into every active airport in the United States. Miss Page Shamburger, member of the 99's, who has been on our staff since May, is now touring the south in a Cessna 140 and will move on west through Texas to California in the coming months.

We in American Aviation have firm faith in the importance and vitality of local aviation. In boom times all aviation magazines leap into the lush local market but when times are difficult there are few indeed who retain staying powers. We are not only staying but are expanding our activities on behalf of the fixed base operator and the smaller airport. We are proud to have an American Aviation airplane hopping from airport to airport in the furtherance of this interest and hope we'll have another in action before too long.

Common Standards Progress

FOR THE past ten years the aircraft manufacturers, Boeing especially, have been urging the CAA and the military services to agree on common airworthiness standards for cargo and transport planes. Progress has been notably meager. But now Slick Airways has ordered three all-cargo Douglas DC-6A's which are almost identical with the planes being built on the same production line for the Navy. Only minimum changes will be necessary to meet CAA requirements or vice versa. The Slick order brings clearly into focus once more the great desirability of flying in commercial service airplanes immediately adaptable to military needs—or of building military transports that are fully acceptable to the CAA.

Strange Doings

THE ATLANTA *Journal* for October 24 carried a news story that newsmen were not permitted to attend the hearings into the cause of a three-way freight train pileup on the Southern Railway System. The hearing was being conducted by the railroad and the Interstate Commerce Commission.

This is a fine state of affairs. Airline accidents are covered in great detail. Hearings are public. The contrast between the airing of airline accidents and the closed-door antics of the I.C.C. and railroads provides sharp contrast. Are railroad pileups so smelly, so smacking of inefficiency, that the I.C.C. and the railroads are forced to conspire to keep the facts from the public?

Worth Bragging About

Here are two newsworthy facts:

1. About 80% of the domestic air mail is now carried on a service basis and is in no way subsidized.

2. In the last ten years rail coach fares are up 44%, Pullman fares up 36%, while airline fares are up only 10%.

WAYNE W. PARRISH

½ YARD TO Touchdown!

The first team is coming in . . . via Fairchild Packet . . . and the Airborne Trooper is headed for a touchdown in the drop zone.

He is carrying the ball now in an assault play that is the culmination of the most carefully planned teamwork imaginable.

For behind this hard-driving trooper are thousands of hours of training and practice and co-ordination with countless other well-trained experts: pilots, plane crews, ground technicians and a host of other U. S. Air Force and U. S. Army strategists and tacticians.

Tracing the team members back even further than that, there are the engineers and designers who planned and created Fairchild's C-82 and its larger, more powerful sister ship, the C-119 . . . transports that bring the Trooper to his goal.

Together, they make a winning combination . . . resulting in successful touchdown after touchdown . . . in the Air Age.

ENGINE AND AIRPLANE CORPORATION

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AN AMERICAN AVIATION EXCLUSIVE . . .

BOEDY'S ALBUM

WITH this issue, AMERICAN AVIATION inaugurates a unique feature —Boedy's Album—which will take its readers into the most famous collection of aviation photographs in the world.

Few if any U. S. aviation leaders—civil or military—have escaped Boedy's lens since he began his snapshooting back in 1936. Key figures in the collection read like American aviation's hall of fame—Lindbergh, Arnold, Rickenbacker, Doolittle, etc. About the only big name missing is Amelia Earhart who disappeared in one of aviation's greatest mysteries, when Boedy was just starting his hobby.

But the album is much more than big names. Along with the five-star generals and admirals, are buck privates and apprentice aircraftsmen. Among presidents of airlines and plane manufacturers are to be found the technicians, salesmen and grease monkeys who form the backbone of the aviation and allied industries.

The man behind the camera—Kenneth J. Boedecker, of Wright Aeronautical Corp.—is perhaps the best known aviation photographer in the field of candid snapshots, and the most prolific. Over the past 15 years, he has turned his hobby into an institution, for his picture-taking is as well-known throughout the industry, among airlines and manufacturers alike, as he is himself.

It all began in 1936 when he bought a new camera on the West Coast and started taking pictures of aviation friends on the trip back east. By the time he arrived back at Wood Ridge, N. J., he had taken 30 shots and was quite proud of the results. The editor of Wright's "Trade Winds" (Ronald S. Gall, now manager of public relations for the Curtiss-Wright Division) looked them over, liked them and began running them under "Purely Personal." That started Boedy into taking pictures of aviation people wherever his business took him.

By 1938, he had 1,400 pictures in the collection, which formed the basis for the first edition of "Boedy's Album," published and distributed by the late Frank Tichenor, of *Aero Digest*. The first printing of 3,000 copies was quickly used up as subscription premiums. An additional 1,000 printing also went fast and that first edition is now a collector's item. A second edition of 1,016 prints followed in 1939.

The revival in print of "Boedy's Album" in AMERICAN AVIATION begins where Edition No. 2 left off—in May, 1939. Two pages will appear each issue—a total of 32 pictures, just as they appear in Boedy's file.

Boedy's file of pictures now totals 8,500; to get them he has flown about 4,500 hours, equivalent to some 800,000 miles.

BOEDY'S ALBUM

W. H. "Bill" Schwebel
Fairchild Aircraft Corp.
Old Point Comfort, Va.
May 2, 1939

Ray D. Kelly
United Air Lines
at Old Point Comfort, Va.
May 2, 1939

Fred Bradley Collins (QB)
Boeing Aircraft Corp.
at Old Point Comfort, Va.
May 2, 1939

J. P. "Jim" Murray
Boeing Aircraft Corp.
at Old Point Comfort, Va.
May 2, 1939

W. P. "Bill" MacCracken (QB)
at Old Point Comfort,
Virginia
May 2, 1939

W. J. "Walt" Addems (QB)
United Air Lines
at Old Point Comfort, Va.
May 2, 1939

Virginius E. Clark (EB)
Clark Aircraft Corp.
at Old Point Comfort, Va.
May 2, 1939

H. W. "Flick" Flickinger (QB)
United States Army
at Old Point Comfort, Va.
May 2, 1939

Benjamin D. Foulois (EB-QB)
at NACA Inspection Tour
Old Point Comfort, Va.
May 2, 1939

A. H. "Bill" Stackpole (QB)
American Aviation Magazine
at Old Point Comfort, Va.
May 2, 1939

C. Fayette Taylor
Mass. Inst. of Technology
at Hampton, Va.
May 2, 1939

Elmer A. Sperry, Jr.
Sperry Instruments
at Hampton, Va.
May 2, 1939

Carl B. Fritsche
Reichhold Chemicals
at Hampton, Va.
May 2, 1939

H. B. "Hank" DuPont (QB)
DuPont Companies
at Hampton, Va.
May 2, 1939

R. E. "Bob" Lees (QB)
Maritime Commission
at Hampton, Va.
May 2, 1939

Frank H. Janke
Wright Aeronautical Corp.
at Hampton, Va.
May 2, 1939

BOEDY'S ALBUM

C. A. "Slim" Lindbergh (QB)
United States Army
Norfolk—Washington
May 2, 1939

Charles A. Lindbergh (QB)
United States Army
Norfolk—Washington
May 2, 1939

C. A. "Slim" Lindbergh (QB)
United States Army
Norfolk—Washington
May 2, 1939

Kenneth J. Boedecker (QB)
Wright Aeronautical Corp.
Norfolk—Washington
May 2, 1939

R. J. "Gil" Ervin (QB)
Burnelli Aircraft Ltd.
Norfolk—Washington
May 2, 1939

Bufkin R. Fairchild
Eastern Air Lines
Washington—Newark
May 3, 1939

Duke W. Ledbetter
American Airlines
at Newark, N. J.
May 4, 1939

Madge D. Caperton
(Mrs. Arthur L.)
Newark—Washington
May 4, 1939

Veronica A. Lalley
American Airlines
Newark—Nashville
May 4, 1939

R. A. "Bob" Bolyard
American Airlines
Newark—Memphis
May 4, 1939

T. J. "Tom" Hatten
American Airlines
at Nashville, Tenn.
May 4, 1939

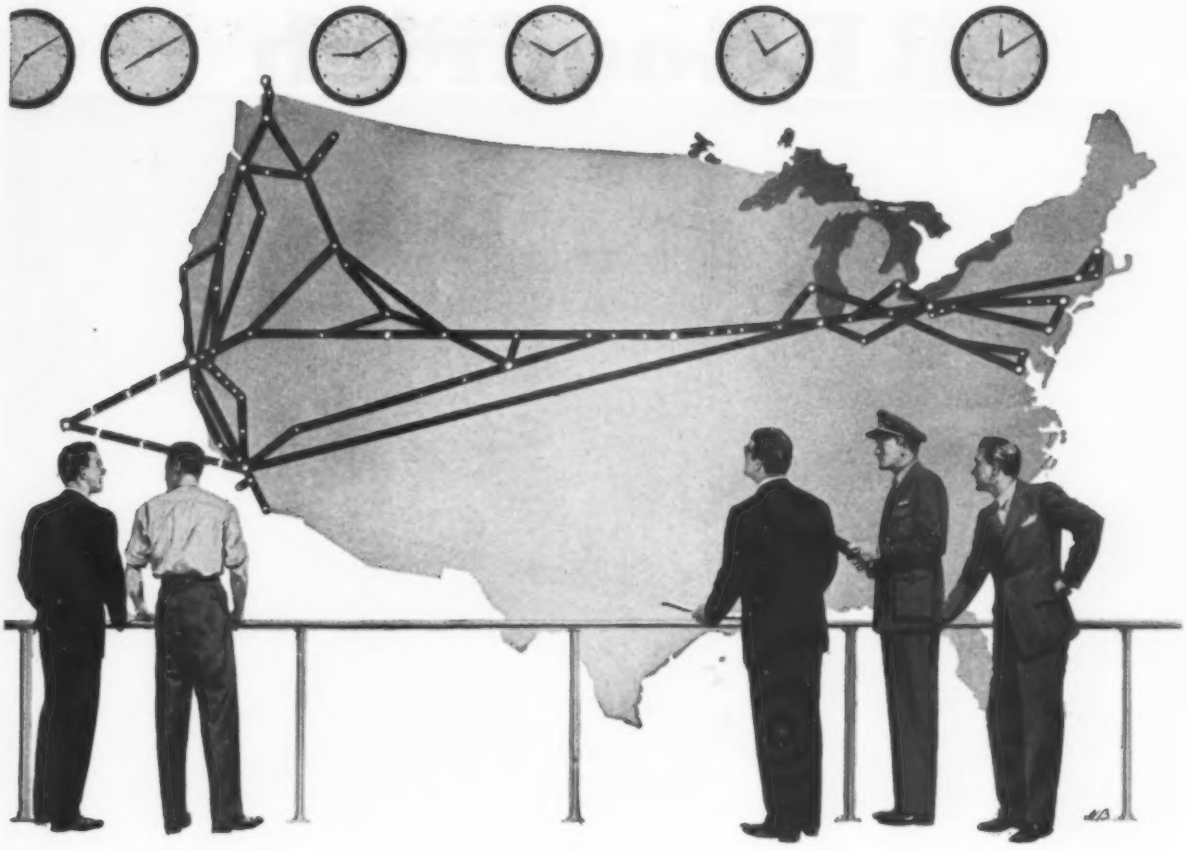
Helen Shryock
American Airlines
Nashville—Dallas
May 4, 1939

Frank W. Raymond
American Airlines
Memphis—Dallas
May 4, 1939

J. G. "Joe" Schneider
American Airlines
Memphis—Dallas
May 4, 1939

Henry I. McGee
Braniff Airways
Dallas, Texas
May 5, 1939

Charles F. "Chuck" Thomas
Lockheed Aircraft Corp.
at Dallas, Texas
May 5, 1939



They "watch the watch" in 6 time zones!

When it's noon in New York, it's still only 7:00 a. m. in Honolulu — but all through the 6 time zones, United Air Lines' on-time dependability is in action.

"Watch that watch!" is the Mainliner motto everywhere, but especially in the Operations Control Center illustrated here. Located in Denver, served by one of the world's finest communications systems, this great central operating base monitors all flights on United's 10,500-mile Main Line Airway.

Over radio, teletype, and direct telephone circuits a constant flow of information comes in, and necessary instructions go out. System-wide weather reports . . . positions of all Mainliners . . . passengers and cargo requirements at all stations, and many other operating factors are known at all times.

This *centralized control* is just one of the reasons why United offers you greater schedule dependability all around the clock — and all the year around.

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Freight • Air Parcel Post

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UNITED AIR LINES

THE NATION'S NUMBER 1 COAST-TO-COAST AIRLINE

$ Did you know that going by United Mainliner often costs you less than 1st class surface travel? For more details and reservations call or write United Air Lines or an Authorized Travel Agent.

B.F.Goodrich

Rubber boots mean safer hops for new airline fleet

PASSENGERS on the new Capital Airlines Constellations are finding many new additions in luxury and comfort. But some other Capital Constellation features have a familiar look.

One of them is the B. F. Goodrich De-Icers on the wing and tail. Like most airliners, the new fleet wears De-Icers to maintain schedules, reduce delays and increase safety under severe icing conditions.

De-Icers are the safest ice-removal device ever developed. They operate on cool air under low pressure. When ice forms on the rubber boot, it is cracked by a series of inflating tubes and carried away by the airstream. Operation is simple and efficient. Cost is low. Maintenance is easy. The plumbing takes up little space and is light weight.

B. F. Goodrich—the leader in icing research—developed the De-Icer and has built more than 100,000 sets of them for airliners, bombers, fighters and executive planes. Many major improvements have been made recently in De-Icer boots, plumbing and controls.

For up-to-date information on De-Icer systems and help with your icing problems, write to *The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.*

B.F.Goodrich

FIRST IN RUBBER

ESTABLISHED JUNE 1, 1937 VOLUME 14 NUMBER 17

American Aviation

Tactical Air Lift Passes Battle Test in Korea . . .

COMBAT CARGO COMMAND IN ACTION

By JAMES J. HAGGERTY, JR.

(Editors' Note: This is the report of AMERICAN AVIATION'S *military editor's survey of the Pacific air lift. He flew more than 20,000 miles, covering MATS' northern and mid-Pacific routes and Combat Cargo Command's air lift from its source in Japan to its destinations in the front lines of Korea.)*

A NUMBER of observers have expressed wonder at the rapid advance of the United Nations armies in Korea. A little over six weeks ago these armies were desperately huddled in a narrow beachhead in the southeast corner of the Korean peninsula. As we go to press they had pushed far into North Korea toward the borders of Manchuria.

There are a number of reasons for the rapid turning of the tide of battle —the ability of the ground troops, the shrewd generalship of their leaders. But high on any list of reasons must be ranked air power's contribution, and to one observer at least, air power's major contribution to success in Korea was not the support provided by jet fighters nor the strategic bombing efforts of the bomber command, invaluable though their work might have been.

It was a new kind of tactical air power: air lift to the front lines, a support effort which provided fresh troops, their equipment and supplies to keep them moving northward "now" instead of "soon."

MATS and CCC

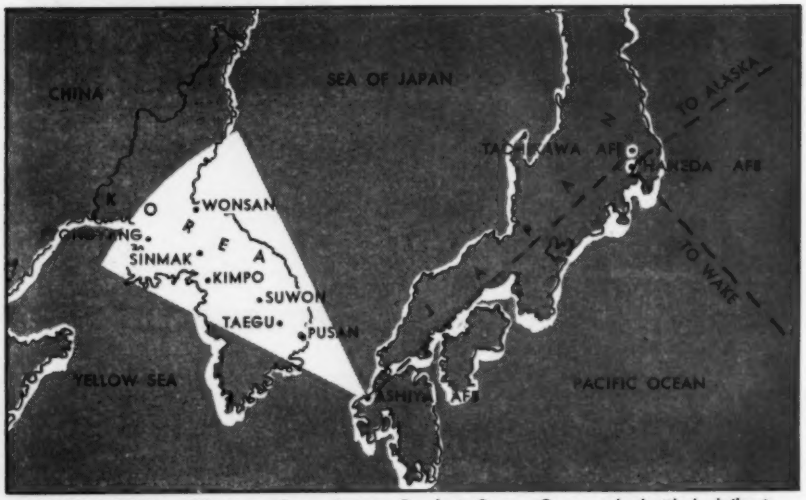
The air lift to Korea was broken down into two parts. The Military Air Transport Service flew priority materials from the west coast of the U. S. as far as Tokyo. There a separate command—Combat Cargo Command of the Far East Air Forces, commanded by Maj. Gen. William H. Tunner of "Hump" and Berlin air lift fame—took over and handled the actual delivery of the supplies to the war areas in Korea.

The air lift also worked in reverse. CCC hauled wounded troops out of the war areas to hospitals in Itazuki or Itami in Japan. If they required treatment in the U. S., CCC moved them to Tokyo, where MATS took over and evacuated them to hospitals in the States.

As we go to press, MATS has delivered just under 11,000 tons of priority cargo to Japan, not an impressive figure by Berlin air lift standards, but impressive indeed when you consider that each ton represents approximately 7,000 ton-miles. Obviously MATS did not fly all the tonnage necessary for the prosecution of the war to Japan; but it did deliver a large portion of the materials needed "now." One of the most needed "materials" was troops and MATS delivered more than 40,000 soldiers to the theater in a hurry.

Air Lift Task Force

To handle its segment of the Japan-Korea air lift, MATS organ-



FROM ASHIYA AFB in southern Japan, Combat Cargo Command shuttled daily to such Korean points as these, moving up its radius as the ground armies advanced. Incoming supplies from the U. S. were loaded at Tachikawa and flown to Ashiya for regrouping.

ized the West Coast Air Lift Task Force, headquartered at Travis Air Force Base, Fairfield, Calif., and commanded by Brig. Gen. Henry C. Kristofferson, recalled to active duty from Pan American World Airways. MATS also enlisted the aid of 17 commercial airlines and two troop carrier groups.

Planes of the task force flew three separate routes to Japan, to avoid saturating the facilities on any one route. From Travis AFB, one route, used chiefly by military planes flying cargo, went via Hickam AFB in Honolulu, Johnston Island, Kwajalein and Guam to Tokyo. Another route, used by commercial charter aircraft mainly, went from Travis to Hickam to Wake Island to Tokyo. The third route, used chiefly by troop-carrying planes, originated at McChord AFB, Tacoma, Wash., and reached Tokyo via Elmendorf AFB, Anchorage, Alaska, and Shemya Island in the Aleutians.

The first-mentioned route totaled 8,083 miles; the second, 6,718 miles and the third 5,688 miles. Thus the mean ton-mile figure for a ton of cargo delivered to Japan would be 6,800 ton-miles. The eastern terminus of all three routes was Haneda AFB, just outside Tokyo; the MATS commander on that end of the line was Brig. Gen. Edward H. White.

Switch at Tokyo

In the Tokyo area, Combat Cargo Command took over at Tachikawa Air Force Base, about 25 miles north of Tokyo. Troops flown into Japan by MATS were processed at nearby Army camps and driven to Tachikawa. Cargo from the States, from Okinawa and from other points in Japan which was destined for use in Korea was either flown directly in to Tachikawa or trucked over from Haneda AFB.

From Tachikawa the troops and cargo were loaded aboard Combat Cargo Command's Curtiss C-46's and flown 600 miles southwest to Ashiya AFB, located on the northern tip of Kyushu Island, just 110 miles across the Sea of Japan from Pusan, Korea. Ashiya was the focal point on the entire air lift operation; it was there that the cargo was regrouped and shipped directly to Korea.

At Ashiya were based the 314th Troop Carrier Wing, flying Fairchild C-119 Packets, the 21st Troop Carrier Squadron, flying Douglas C-47's, and Marine squadron VMR-152, flying Douglas R5D's (C-54's). The other part of Tunner's command, the 374th Troop Carrier Wing, flying C-46's and C-54's, was based at Tachikawa. The C-46's and C-47's worked chiefly on transport within Japan, while the bulk of the traffic to Korea was handled by the bigger ships, the C-54's and C-119's.

Sea Transport Stymied

CCC came into prominence when the top-level planners discovered that sea transport was going to be something less than adequate. Originally, they had planned to use what appeared to be excellent harbors at Inchon on the west coast and Pohang on the east coast to supply the UN forces when they broke out of their beachhead and started to move north. But both harbors proved to be disappointments: they were shallow, heavily mined and rough tides just outside the harbor propers made it very difficult for large ships to enter. So the planners shifted their priority supply requirements to air transport.

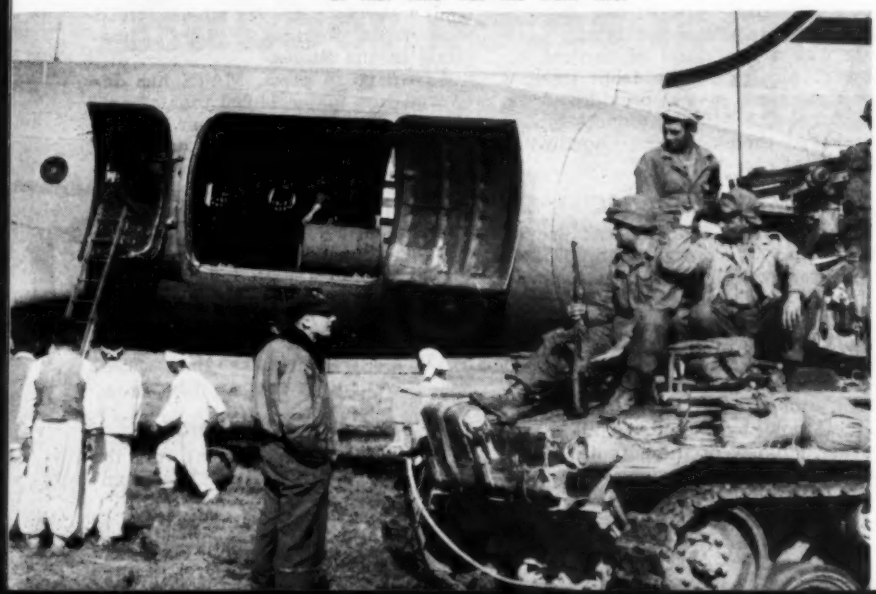
CCC's most spectacular mission was the Pyongyang paradrop, in which Fairchild C-119's and Douglas C-47's dropped some 6,000 troops of the 11th Airborne Division's 187th Airborne Regiment on the small village of Sukchon and Sunchon, 25 miles north of the capital. The mission was highly successful; the troops fanned out, set up road blocks to cut off retreating Communists and e s t a b l i s h e d an "anvilhead" against which the North Korean army could be crushed.

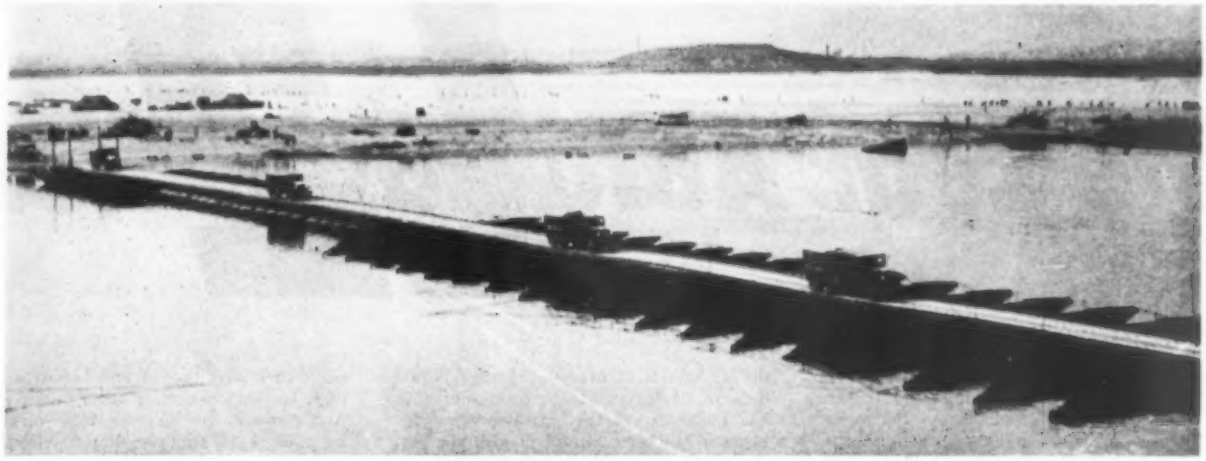
But that was the only paradrop of the war and it was not CCC's greatest contribution to the war; for six weeks before the drop CCC had been shuttling vital cargo to the front lines, permitting the advancing UN forces to keep moving at top speed.

Front-Line Supply

As stated before, CCC's Japanese base for the combat lift was Ashiya; its Korean terminus was whatever field or strip was closest to the units most in need of supplies. In the early days of the war, the command

FRONT-LINE cargo delivery was a specialty of Combat Cargo Command. This C-54 has just delivered 18 50-gallon drums of fuel for tanks and trucks to Sinmak, which at that time was the front line.





THIS PONTOON bridge, which enabled UN forces to cross the Han River near Seoul, was flown in entirely by Fairchild C-119's of Combat Cargo Command after efforts to unload a similar bridge from a ship failed because of poor harbor facilities. Each C-119 carried three bulky 2,500-pound sections; delivery was accomplished in slightly over 70 sorties.

shuttled to Pusan; later to Taegu and Suwon. As the UN forces broke out of their beachhead and started northward, CCC moved with them, leapfrogging from one newly captured base to the next, never very far behind the advance echelons. When the allies recaptured Seoul, CCC started flying supplies into Kimpo Airfield while gunfire was still rattling around the airdrome; the first C-119 touched down at Wonsan while the Republic of Korea army was still battling for the town only 5,000 yards from the runway.

This reporter flew on a front-line supply mission to a town called Sinmak, which serves as an excellent illustration of the type of tactical transport support CCC was providing the ground forces. Maj. Gen. Walton H. Walker's Eighth Army was moving fast toward the North Korean capital of Pyongyang.

Normally, after taking Sinmak, the ground forces would probably have stopped for a couple of days to let their supplies, far behind them, catch up. But an earlier conference between Walker and Tunner took care of that. Eight hours after Sinmak was secured C-54's and C-46's of the Combat Cargo Command started landing on Sinmak's 2,500-foot sod runway tucked away behind a circle of 2,000-foot hills. (One pilot said it was like landing in the Los Angeles Coliseum.)

Army Keeps Moving

By the end of the first day's operation, CCC had delivered 234 tons of fuel and rations—just the bare essentials to enable the army to keep moving—and Walker was on the move again, giving the fleeing Reds no time to regroup. Thus the Eighth Army reached Pyongyang days ahead of schedule and almost obviated the need for the paradrop.

In the Fairchild C-119, CCC introduced a brand-new airplane to the war theater. Probably never before has a plane type had such a rapid transition from the production line to combat. The C-119 proved to be at the same time a boon and a headache. It was a boon because it could carry certain large pieces of equipment which no other plane in the theater could handle.

The C-119 got a major opportunity to demonstrate its worth in the capture of Seoul. To cross the Han River in pursuit of the fleeing Reds, the UN forces needed a pontoon bridge. The planners had considered this in advance and they had a bridge available—but it was loaded aboard a ship just outside Inchon harbor which could not get in. CCC and the C-119 came to the rescue. C-119's were dispatched to Tachikawa, where they loaded another pontoon bridge and flew it into Seoul in one day.

Bridge-Building Packets

Each plane carried three 2,500 pound sections per trip and delivery of the bridge was accomplished in seventy-odd sorties. Later, the Packets flew another bridge, this one even larger, into Korea. The latter was a 600-ton steel bridge destined for a river crossing below Pyongyang. Each section weighed 4,000 pounds; each Packet carried three sections. Delivery was accomplished in about a hundred sorties.

The C-119's carried a number of other loads that even C-54's couldn't handle: large fork lifts, a complete asphalt paving unit, bulky 19,000-pound wire rolls, a completely equipped fire crash truck, large transmitters and bulky three-ton generators.

But the C-119's also proved to be a major maintenance headache. In the first place, they were afflicted with runaway propeller troubles, caused by a faulty control system in the Hamilton Standard propeller assembly. Prior to the Pyongyang paradrop, CCC had experienced 26 runaways. There was also a shortage of spare parts for the Packets; finally, there was a shortage of trained maintenance crews.

Monumental Maintenance

But somehow they managed; perhaps the greatest tribute to CCC's maintenance personnel, who were headed by Col. George Hatcher (formerly of Douglas and Fairchild), was the fact that they were able to get 80 C-119's in the air out of 86 availables for the Pyongyang drop, despite the maintenance problems.

As we left Ashiya, CCC was preparing to relieve the C-119's from duty to send them to Tachikawa, where Hamilton Standard had set up a modification unit to install a "fix" in the control cans. After that, they were to be ferried home, but not in dishonor; everyone, from Tunner down, admitted they had done a great job in the face of tremendous maintenance handicaps.

Up until the time of the Pyonygang drop, CCC had flown more than 20,000 tons of priority supplies into Korea. (The discrepancy between this figure and the 11,000 tons flown into Japan by MATS is due to the fact that CCC drew its supplies from stores already in Japan as well as from the MATS lift).

That's the story of the Japan-Korea air lift. There can be no question that it made a major contribution to the speedy drive up the peninsula and the Army officers to whom this reporter talked were glad to admit it. It is refreshing to note, in these days when there is so much squabbling about the alleged failure of the Air Force to provide efficient tactical fighter support and the inefficiency of strategic bombing in Korea, that at least one segment of air power, tactical air transport, came through with flying colors.

The Lear Automatic L-2 Pilot

Progress in aviation is not always achieved at the same even rate. Sometimes it inches along with very little change; other times it picks up speed and travels at a gallop. And on very rare occasions—as now, for example, with the perfection of the Lear L-2 Automatic Pilot an accomplished fact after seven long years of designing, engineering, and testing—aviation suddenly leaps ahead into *an entirely new era* of flight safety and simplicity.

Yet, new as it is, the Lear L-2 Autopilot is by no means untried—by no means merely a promise of things to come. Already installed in Navions, Bonanzas, Cessnas, DC-3's, Lodestars and Twin Beeches, and with many thousands of customer-hours behind it, the L-2 autopilot is today a fully proved, widely accepted, readily purchasable *reality*.

WHAT WILL IT DO? (1) The L-2 will hold your airplane laterally and longitudinally level in fair weather or foul, in turbulent air or smooth, without requiring a finger or foot at the airplane's controls. (2) It will hold your airplane on any course you select and hold it automatically, accurately, and smoothly. (3) It will enable you to alter this course at will in a smoothly coordinated, automatically executed turn. (4) It will automatically maintain your airplane in any desired safe angle of climb or descent. (5) It will automatically maintain your airplane in any desired safe climbing or descending turn.

In other words, the L-2 is both a *stabilizing* and *maneuvering* automatic pilot, operating on all three axes—roll (aileron), pitch (elevator), and yaw (rudder).

NOW LET US TRANSLATE these five basic functions of the Lear L-2 Autopilot into the actualities of everyday flying. What does the automatic flight control of the L-2 mean to you, the private owner or business executive, who depends upon his plane to provide the maximum in safe, efficient, and pleasurable transportation?

It means that all you have to do is turn on the L-2 engage switch and then sit back comfortably for the entire trip, regardless of its length or the weather you encounter, without once touching the airplane controls except for the actual takeoff and landing. (As a matter of fact, the sensitivity of the L-2 is such that it will even take off and land your plane automatically, although it is not designed or recommended for this.) On a long trip the constant muscular effort and nervous strain of manually controlling your plane tax your energy and mental alertness to a considerable, sometimes dangerous, degree. Relieved of this fatiguing burden by the L-2; you will remain physically and mentally relaxed for the brain work that safe flying requires. You will be able to fly many more hours a day than you ever did before and still feel refreshed enough to go about your business when you land.

IT MEANS SMOOTHER FLYING and consequently less airsickness for your passengers and greater comfort for yourself. In rough air the L-2 checks the airplane's rolling, pitching, and yawing movements *before* they develop any appreciable magnitude.

It means that while the L-2 flies your plane, you will be completely free to converse with your passengers; handle your radio communications; write down the weather sequences and winds aloft; make entries in your position log; figure your ETA's; re-plot your course on the chart in case of bad weather; attend to your numerous duties after takeoff and before landings; keep a lookout for other traffic, etc. And it means, furthermore, that you will be able to do all these things leisurely, undistractedly, and accurately.

IT MEANS GREATLY INCREASED safety while you maneuver at low altitude and low airspeed to observe roof markers, check points, strange fields, runway conditions, wind socks, etc. While your attention is outside the plane, the plane can be maneuvered automatically and safely in perfect turns and constant altitude.

It means greatly increased accuracy in navigation. Most navigational difficulties are caused not so much by poor calculation as by the poor steering brought on by compass errors, rough air, restricted visibility, and pilot fatigue. The L-2 will hold an accurate course in the roughest air.

It means that you fly faster and use less gas because you are able to fly straighter, because you are able to hold your altitude and maximum cruising speed once you have established them, and because you are able to maintain efficient constant-rate climbs and descents.

IT MEANS COMPLETELY AUTOMATIC control when emergencies occur. For example, in case of engine failure in multi-engine aircraft, the L-2 will instantly correct for the yaw due to unbalanced power and automatically hold the plane straight and level. An owner of a single-engine airplane equipped with an L-2 Autopilot claims that it recently saved his airplane by taking over the flying when an engine fuel-pump failure required his full attention to pumping gas by hand.

The L-2 can mean the difference between life and death for the VFR pilot

THE L-2 STABILIZES YOUR PLANE AUTOMATICALLY

(Amount of deviation shown here has been deliberately exaggerated. In actual practice, the L-2 prevents deviations before they develop.)

When a gust hits and a wing goes down...

the L-2 goes into action instantly, applying exactly the right amount of corrective control.

If for any reason the plane is thrown off the established pitch attitude...

the L-2 elevator servo brings it back. Necessary trim changes are made automatically.

If the plane deviates by even a single degree from the established heading...

the L-2 rudder servo immediately applies a proportionate amount of correction, but without lag or oversweep.

is here... and it's great!

accidentally caught off base in instrument weather. Although Lear does not recommend intentional instrument flying with the L-2 unless you are properly licensed and equipped for such flying, it is a known fact that practically every pilot sometimes gets into conditions beyond his equipment and training. However, bad weather makes little difference to the L-2—it flies just as well in zero-zero conditions as it does in CAVU. A test pilot flying a Bonanza equipped with a Lear L-2 Autopilot deliberately entered a cold-front thunderstorm and came out on exactly the same heading he went in, although the hail-laden currents within the storm were so violent that the paint was stripped bare from the leading edge of his wing. No structural damage occurred, however, because the L-2 kept the plane in a constant attitude—no dives, no high "g" pull-outs.

It means greatly increased peace of mind while flying at night, which can also be treacherous to the non-instrument pilot.

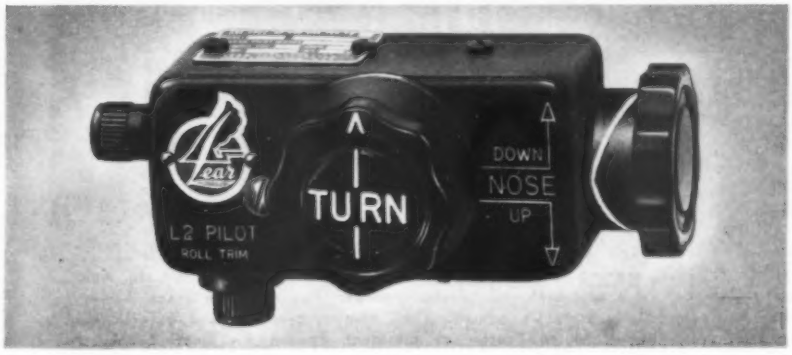
FOR THE QUALIFIED INSTRUMENT PILOT the L-2 has as many advantages as it has for the fair weather pilot. It means, first of all, relief from the strain and hypnosis dangers of prolonged instrument flying. With all due respect to your ability, there isn't a pilot in the world who can do as good a job on the "gauges" as the L-2.

Flying with the L-2 takes most of the grief out of radio range problems, beam bracketing, and ILS approaches. To change course you merely rotate the "Turn" knob on the Controller. Your plane turns smoothly and automatically, and stops turning exactly—but *exactly*—where you want it to stop. To descend, you merely rotate the "Pitch" knob on the Controller for the desired rate of descent, and the L-2 will bring you down from the markers strictly according to the book.

"Holding" over a fix with the L-2 is simplicity itself. You do it just as the airlines do—with a minimum of effort and at exactly the altitude and position at which you are supposed to hold.

THE L-2 IS SIMPLE TO OPERATE, easy to install, and weighs less than 30 pounds (without gyros). The price of the L-2 is $2990, and includes a set of excellent directional and horizon gyros, which replace the ones you normally use for visual reference. The L-2 also contains provisions for adding the Lear Automatic Approach Coupler and the Lear Automatic Altitude Control.

With the Lear L-2 Autopilot in your plane your experience of flying will have no resemblance to anything you have known in the past. You will discover air transportation at its best, its safest, and its most enjoyable. You will certainly want to know more about this remarkable instrument, so we have prepared a comprehensive book entitled *The Lear L-2 Autopilot* which describes its operation and functions in full detail. We invite you to send for your copy today—free, of course.



The L-2 is unbelievably easy to operate. Turn on the engage switch and your plane is under complete stabilized control on all three axes! To make a turn, simply rotate the "Turn" knob in the desired direction. Stop the turn by moving the knob back to the neutral position. To climb, just roll the "Pitch" knob backward. To descend, roll it forward. The L-2 can be easily overpowered by the pilot, and instantly disengaged by the flip of a fingertip switch on the control wheel. Automatic trim tab control keeps the plane constantly in trim on the pitch axis, thus assuring a normal, no-load condition on the elevators whenever the L-2 is suddenly disengaged to permit manual flight.

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GRAND RAPIDS, MICH.
LOS ANGELES, CALIF. • ELYRIA, OHIO
Export Representatives: Lear International Export Corp., New York, N.Y.
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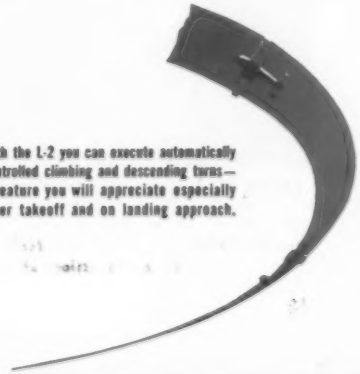
THE L-2 MANEUVERS YOUR PLANE AUTOMATICALLY

You get a smoothly coordinated, constant-bank turn by simply rotating the "Turn" knob on the Controller. A great aid to accuracy in contact flying—invaluable for instrument and night flying.

The L-2 will hold your plane automatically in a safe constant-rate climb or descent, at the same time maintaining a fixed heading and a wing-level attitude.

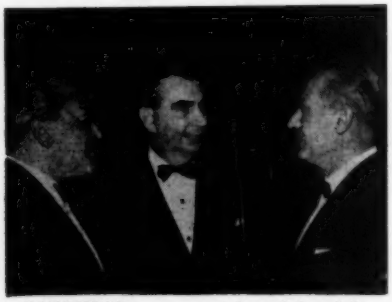


With the L-2 you can execute automatically controlled climbing and descending turns—a feature you will appreciate especially after takeoff and on landing approach.

IATA Personalities at San Francisco . . .

Gavel Presentation—Sir William P. Hildred (second from left), director general of the International Air Transport Association, is presented with a maple leaf gavel by Gordon R. McGregor, president of Trans-Canada Air Lines, prior to the opening of the IATA general meeting in San Francisco last month. Looking on are Dr. Albert Plesman, president of KLM Royal Dutch Airlines (left), and Warren Lee Pierson, chairman of the board of Trans World Airlines and outgoing president of IATA.

DR. PAULO SAMPAIO, president of Panair do Brasil (left); Maj. Gen. C. J. Venter, chief airways manager, South African Airways (center); and M. Roushdy Bey, managing director, Misair, S.A.E., snapped against a background of international flags during an IATA business session.



RADIATING amusement in a tete-a-tete preceding the state dinner at the IATA general meeting were; left to right: S. Krzyszkowski, secretary, IATA technical committee; J. T. Dyment, director of engineering, Trans-Canada Air Lines; and Bruno Velini, general traffic manager, Alitalia.

CANDID PHOTO, showing a portion of the IATA banquet table, left to right: Douglas Campbell, vice president and general manager, Pan American-Grace Airways; Walter A. Radius, U. S. State Department; Croil Hunter, president and general manager, Northwest Airlines; M. M. Frost, vice president, Eastern Air Lines; Sydney A. Stewart, president, Chicago & Southern Air Lines; and Dr. Edward Warner, president of the ICAO Council.

IATA Delegates—M. M. (Jack) Frost, vice president of Eastern Air Lines; Herbert C. Dobbs, director of EAL's Latin American Division; and Guy Evans, U. S. representative of Australian National Airways, pictured listening to a discussion at the IATA meeting.

PAA VP's—Four vice presidents of Pan American World Airways, listen interestingly during one of the IATA discussions in San Francisco. Left to right: Harold M. Bixby; Henry J. Friendly, vice president & general counsel; Erwin Balluder; and Willis G. Lipscomb, vice president—traffic & sales.

Excess Profits Legislation Seen Ruinous for Aviation

FEW ITEMS of legislation in recent times have carried as great an import for the aviation industry as does the proposed excess profits tax, which will be the top item of business when Congress comes back to Washington late this month.

The air transport and aircraft manufacturing industries are convinced that a tax on profits exceeding a credit based on average 1946-1949 earnings would be little short of disastrous.

In the postwar years when most industries were rolling up lush annual profits, the nation's airlines were writing their financial reports in red ink and fighting to keep their heads above water, while the aircraft manufacturers were afflicted simultaneously with the effects of the poverty of the airlines and the drying up of military procurement in the pre-cold-war period.

Slim Aviation Years

Profits in most of those years were either non-existent or slim in the aviation industry, and to say for tax writing purposes that any profits higher than those are excess and should be subject to taxation at the rate of 80% or so would inflict a great hardship on the industry, its leaders point out.

C. R. Smith, president of American Airlines, stated the views of a good many aviation leaders when he asserted:

"We are in favor of an increase in Federal income taxes . . . but we are not in favor of an excess profits tax.

"Air transportation has had and will have no excess profits because its rates are determined by Federal regulation. Not only is this form of taxation inequitable as between different industries and different companies, but excess profit taxation bears most heavily on young and growing industries, the development and growth of which is essential to the defense program."

He offered as an alternative the suggestion that the normal tax rate of 38% should be retained and abnormal defense expenditures paid for through a temporary "war" tax based on net income.

The Aircraft Industries Association and the Air Transport Association have marshaled facts and figures to support their position against an excess profits tax.

Manufacturers

Figures on earnings are available from 15 of the 16 major aircraft companies. These companies for 1946-1949 reported a total average annual *loss* of $1,200,000. Therefore, on the average, they would have no excess profits earnings credit whatsoever on which to base a new profits tax. In contrast, these same companies had an average credit under the World War II excess profits tax of $4,000,000.

Two of the 15 companies have losses in each of the four years from 1946 through 1949, while five others had one or more profit years but an average loss for the four years. These seven actually had an average loss for the period of $5.2 million. The other eight companies had an average annual profit, but this is not the whole story.

The average profit for these eight was only $2,200,000, which is only 50% of their World War II excess profits credit. But their present capacity, based on the increase in their sales, is over seven times what it was during the World War II base period. In view of this increased plant capacity, the 15 companies' average credit under the World War II tax of $4 million would be inadequate today. Sales of the 15 companies in the 1936-1939 period averaged $143,000,000, while the average in 1946-1949 was $1,000,000,000, or seven times greater.

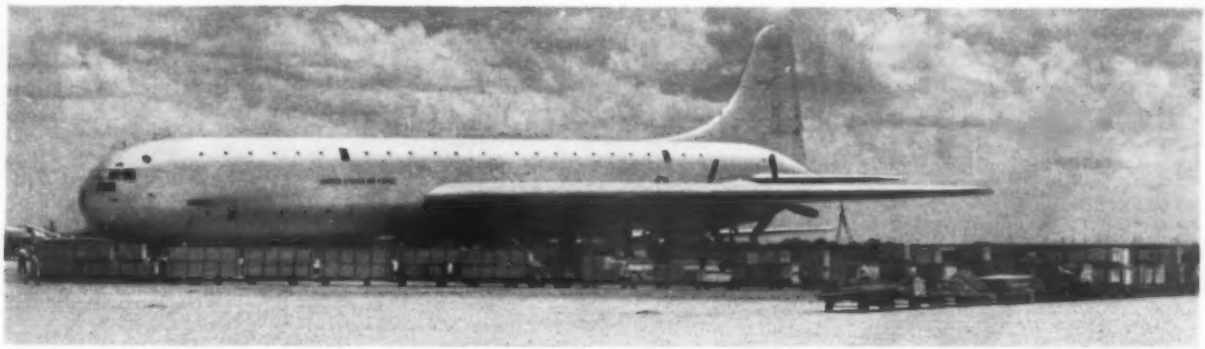
Heavier emphasis on air power, the increase in aircraft performance with jets, pressurization, radar and other costly developments, together with inflation in commodity prices, have sharply raised aircraft development and production costs. Furthermore, aircraft earnings are restricted by price determination and contract renegotiation.

As an industry spokesman pointed out, in the mobilization program the aircraft companies require adequate earnings after taxes to finance increased research, tools and production equipment. The proposed excess profits tax would deny them these and also block their recovery from the 1946-1949 losses.

Airlines

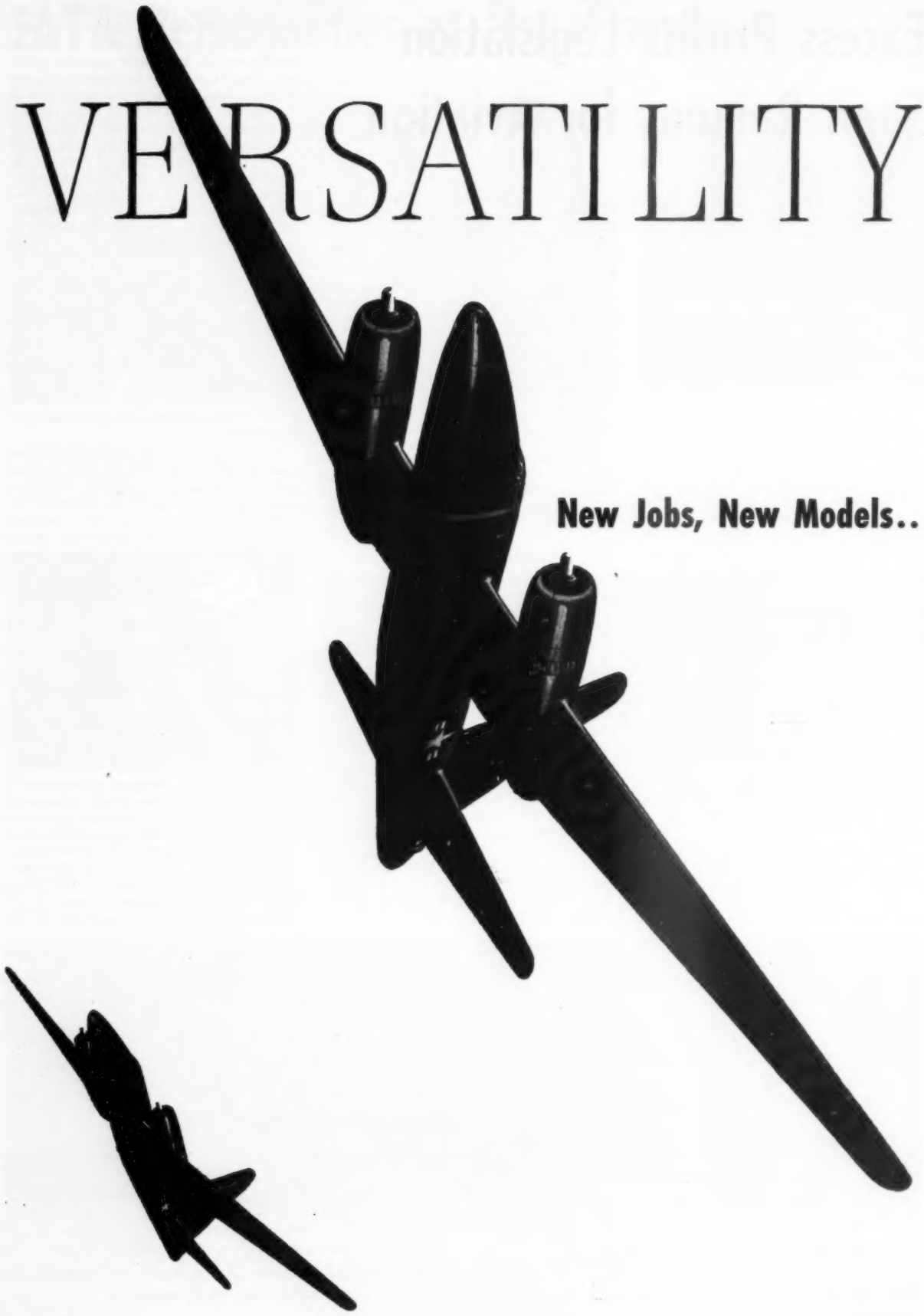
After taxes and provisions for debt retirement, the 16 domestic trunk airlines showed a net loss of $13,379,942 for the years 1947-1949. The U. S. international carriers showed a profit of $8,695,050 for the period, but this is still subject to mail pay adjustments.

In contrast to these figures, the 16 domestic trunklines seem likely to finish the year 1950 with an operating profit of $50,000,000, highest in their history. After taxes and other deductions, this will still add up to a substantial net profit, and if this profit were to be subjected to an excess profits tax based on earnings in the



Payload Record—Shown here is the Convair XC-99 and some of the cargo it carried on a recent record payload flight. The plane, sister ship of the B-36, lifted more than 100,000 pounds of cargo, consisting of 42 aircraft engines and spares, and carried it 200,000 ton-miles. The USAF is conducting a series of such flights to evaluate the big ship's weight-lifting ability.

VERSATILITY



New Jobs, New Models..

..The Navy's P2V

Like other Lockheed aircraft, the Navy's powerful P2V Patrol Bomber, the Neptune, is today far more versatile than its original prototype. The physical changes that this plane has undergone are so advanced they are secret, but the proved achievement of the P2V series is a matter of record.

The P2V holds the world's longest *non-refueling, non-stop* flight record of 11,236 miles—from Perth, Australia, to Columbus, Ohio.

It is the largest airplane to take off from an aircraft carrier.

A squadron of Navy P2V's flew 691 hours photographing the Arctic in an unprecedented aerial survey. They took more than 120,000 separate pictures.

P2V's in the Arctic have operated successfully in extremely adverse cold weather, as cold as —42°F.

Neptunes are currently engaged in vital operations in the Pacific area.

Long in quantity production, the Neptune provides the Navy with a patrol bomber designed for many jobs: anti-submarine warfare, all-weather reconnaissance, including hurricane patrol, long-range photo reconnaissance, air search and rescue, special carrier-launched missions.

Lockheed
Aircraft Corp.

Burbank, California

$50 Million Airline Profit Forecast

Airline economists predict that, barring unforeseen eventualities, the 16 domestic trunklines will show an operating profit of $50 million for 1950. Basis for the forecast is the $29 million operating income already reported for the first eight months of this year. The $50 million figure, if attained, would be highest in industry's history; previous high was 1949 when the 16 trunks showed a $24,625,337 operating profit.

Figures released by the Air Transport Association for the first eight months of 1950, ended August 31, show an operating profit of $29,330,694. The profit and loss statement of the carriers follows:

American	$10,958,184	MCA	$409,595
Braniff	1,109,869	National	1,564,754
Capital	1,276,480	Northeast	57,523
C & S	365,985	Northwest	—4,202,179
Colonial	—322,947	UAL	6,050,565
Continental	145,261	TWA	3,952,930
Delta	1,446,019	Western	762,854
Eastern	5,413,292		
Inland	342,509		$29,330,694

profitless postwar period, the airlines would be hit hard and unjustly.

Airline officials would like to see the excess profits tax bill killed, or to have their companies exempted from its general provisions because of their peculiar situation. Barring this, they may recommend a plan which might give each airline the choice of using any two of the last four years—1946 through 1949—as the base normal profit period.

This plan, it was said, would make for a more equitable adjustment because certain carriers fared better than others during certain two-year periods, and vice versa.

Also, the airlines hope to eliminate provisions carried in the World War II excess profits tax law which required them to use only 50% of the amount of their borrowed capital as a credit toward the excess profits for tax purposes. They hope to have this credit raised to the full 100%.

PEOPLE IN THE NEWS

Arthur Eldridge Focke, president of the American Society of Metals, has been named head of the chemistry and metallurgy department of Fairchild Engine and Airplane Corp.'s NEPA Division, effective November 15.

Dr. Nicol H. Smith, former director of research operations of the Franklin Institute Laboratories, has been appointed executive director of the Laboratories.

Edward J. Lynch has been designated chairman of the Massachusetts Aeronautics Commission by **Governor Paul A. Dever.**

Robert C. Goodwin, director of the War Manpower Commission during World War II, has been named Chief of the Office of Defense Manpower. He will serve as special assistant to Secretary of Labor **Maurice J. Tobin** and as excutive director of the recently created manpower office.

Edward H. Lane, furniture manufacturer at Altavista, Va., has been named special assistant to **William H. Harrison**, NPA administrator, to insure maximum participation of smaller business concerns in the defense effort.

Kenneth L. Vore, director of transportation for the Los Angeles Chamber of Commerce, has been named consultant to **E. G. Plowman**, director of the Defense Department's new Military Traffic Service.

Col. J. A. Villamor, for the past 20 months consultant on Far East aviation matters to the Administrator of Civil Aeronautics, has resigned to return to active duty with the Air Force. An aviator for 15 years, he was Administrator of Civil Aeronautics in the Philippines after World War II.

New Directory Lists:

- 15,000 Top-Level Names
- 7,300 Companies

The revised 22nd edition of *American Aviation Directory*, for fall-winter 1950-51, is now available at $5 per copy, with reduced rates for bulk orders. Some 15,000 top-level personnel and 7,300 companies and organizations in world-wide aviation are listed and indexed alphabetically.

A new feature is the improved "Equipment Buyers Guide" section, an easy-to-use reference for buyers of aircraft components and flight equipment; airport, airway and terminal equipment; and shop, factory and maintenance equipment. More than 660 products of 188 leading manufacturers are indexed in the buyers' guide.

The *Directory* is available from American Aviation Publications, 1025 Vermont Avenue N.W., Washington 5, D. C.

American Aviation's

"Flying Reporter"

AMERICAN AVIATION magazine last month added to its list of "firsts" when its new "Flying Reporter" airplane, a Cessna 140, took off on a grasshopper itinerary which includes every airport and landing field in the United States.

The plane is piloted by Miss Page Shamburger, editorial and sales representative, who thus becomes the first permanent flying field representative of an aviation publication. She is flying first through South Carolina and the southern states, then on to Texas, California, and up the West Coast.

Miss Shamburger joined American Aviation Publications last May, and has made extensive surveys of the fixed-base and small airport fields by automobile in North Carolina and in New England. The results were good, but the method too slow.

Equipped with camera, she will make regular news and picture reports for AMERICAN AVIATION, with the first one appearing November 27. Every effort will be made to visit every useable landing field in the country—the first time such a project has been undertaken.

The "Flying Reporter" was christened October 27, at Washington National Airport, by the Washington Chapter of the Ninety-Nines, international organization of women pilots, of which Miss Shamburger is a member.

PICTURED beside 'The Flying Reporter,' American Aviation Publications' Cessna 140, are, left to right: Barbara J. Ward, local operations editor; Page Shamburger, field representative and pilot of the plane; and Keith Saunders, airports editor.

OFFICERS and members of the Washington chapter of the 99's, international organization of women pilots, at the christening of "The Flying Reporter."

JOVIALITY was the keynote of this group in the President's Room at Washington National Airport just after the christening ceremony. Left to right: Wiley Wright, director Office of Aviation Development CAA; Page Shamburger, flying field representative of American Aviation Publications; Barbara J. Ward, AAP local operations editor; Joseph T. Geuting, Jr., manager, Personal Aircraft Council, Aircraft Industries Association, and Mrs. Robert M. (Nancy) Love, noted women flyer and wife of the president of All American Airways.

PAGE SHAMBURGER, shown beside the Cessna 140 she will fly around the country, is flanked by Mrs. Wendell H. (Mitzi) Moore, chairman of the Washington chapter of the 99's who christened the plane, and Wayne W. Parrish, editor and publisher of American Aviation Publications.

Aviation Calendar

Nov. 20-22—Conference of National Aviation Organizations meeting, Shoreham Hotel, Washington, D. C.

Nov. 27-Dec. 1—American Society of Mechanical Engineers annual meeting, Hotel Statler, New York, N. Y.

Nov. 29-Dec. 1—Aviation Distributors and Manufacturers Ass'n 8th annual meeting, Ambassador Hotel, Los Angeles, California.

Nov. 30—Airport fire safety clinic, sponsored by the Committee on Aviation and Airport Fire Protection, National Fire Protection Ass'n, Baker Hotel, Dallas, Texas.

Dec. 16—Institute of the Aeronautical Sciences 14th Wright Brothers Lecture, U. S. Chamber of Commerce Auditorium, Washington, D. C.

Dec. 16—Wright Brothers Memorial Dinner, Statler Hotel, Washington, D. C.

Jan. 2-7—Miami Aviation Week, Miami, Florida.

Jan. 6-7—Annual Miami Air Show, Opa Locka Airport, Miami, Florida.

Jan. 8-10—8th annual Miami-Havana air cruise.

Jan. 8-12—Society of Automotive Engineers annual meeting and engineering display, Hotel Book-Cadillac, Detroit, Michigan.

Jan. 29-Feb. 1—Institute of the Aeronautical Sciences 19th annual meeting, Hotel Astor, New York, N. Y.

Feb. 14-16—National Aviation Education Council meeting, Atlantic City, New Jersey.

April 16-18—Society of Automotive Engineers areonautic meeting and aircraft engineering display, Hotel Statler, New York, N. Y.

April 19-21—Airport Operators Council annual meeting, Hotel Peabody, Memphis, Tennessee.

April 23-26—American Association of Airport Executives annual meeting, Minneapolis, Minnesota.

April 24-26—Air Transport Association annual engineering and maintenance conference, Drake Hotel, Chicago, Illinois.

May 23-24—American Society for Quality Control fifth annual convention, Hotel Cleveland, Cleveland, Ohio.

June 3-8—Society of Automotive Engineers summer meeting, French Lick Springs Hotel, French Lick, Indiana.

June 18-22—American Society for Testing Materials annual meeting, Atlantic City, New Jersey.

Sept. 10-14—Instrument Society of America sixth national instrument conference and exhibit, Sam Houston Coliseum, Houston, Texas.

International

Nov. 14—ICAO Rules of the Air/Air Traffic Control Division meeting, Montreal.

Jan. 2—ICAO Legal Committee meeting, Mexico City.

Feb. 13—ICAO Airworthiness Division meeting, Montreal.

Feb. 20—ICAO Operations Division meeting, Montreal.

March—World Meteorological Organization Congress, Paris.

April 3—ICAO Communications Division meeting, Montreal.

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WHAT'S DOING

When World War II ended, just a little more than five years ago, Pratt & Whitney Aircraft had the immense satisfaction of knowing that its piston engines had powered almost exactly as many allied war planes as all other makes combined.

But we were then just about at the bottom of the list as designers and builders of the new gas turbine engines. In fact, we hadn't built a single turbine. The reason? The military demand for our reciprocating types had been so great, right up to V-J Day, that we were not permitted to do more than a token amount of research and engineering on gas turbines. Yet British, German and American jets were already flying, and several other American manufacturers were hard at work on their own designs.

As the war drew to a close, however, we began intensive design and development work on gas turbines. That was in the summer of 1945. We started with the realization that we had a very tough job on our hands to catch up with the others and to stay in business.

But we did it. Just a few weeks ago, we proudly watched the first flight tests of *the most powerful turboprop engine* that has ever flown, the Pratt & Whitney T-34 Turbo-Wasp. Work on this project had started five long years before, under Navy auspices. Meantime, we had already reached the production stage on *the most powerful turbojet engine* flying in the United States, the J-48 Turbo-Wasp, and on the smaller J-42, both developed in collaboration with Rolls-Royce. In addition, we have continued to refine and produce, in increasing quantities, the Wasp Major, *most powerful reciprocating engine* in the aircraft world.

Reaching this height was a real up-hill climb, and we think it points up a moral. It's this: Real progress in this aviation business is not easily or quickly achieved.

The story of these past five years at Pratt & Whitney is one of headaches and heartaches and midnight oil, of millions of man-hours of hard work and of millions of dollars risked to reach the goal. The next five years — or ten — won't be any different. We must continue to devote our skill, our energy, our time, and our money to one task — developing superior aircraft power plants. Only by doing this faithfully can we help maintain the air supremacy without which this country cannot survive.

at Pratt & Whitney Aircraft?

HOW MANY MAN-HOURS HAVE WE SPENT ON GAS TURBINE DEVELOPMENT?

The answer to this question is a very impressive figure and we'd like to publish it here, but to disclose it would reveal restricted information. But we can give you a clue to the answer. The simplest job in our gas turbine program was development of the J-42 turbojet. That engine, as you know, was only an adaptation of an existing design. And yet more than a million man-hours were spent in preparing it for production. Development work was even more extensive on the powerful J-48 turbojet and T-34 turboprop engines. The time devoted to development on all three and several other gas turbine projects already has run into many, many millions of man-hours.

WHAT ARE THE RATINGS OF OUR MOST POWERFUL ENGINES?

Wasp Major	J-48 Turbojet	T-34 Turboprop
☐ 3,000 Hp.?	☐ 5,000 Lb. Thrust?	☐ 5,000 Hp.?
☐ 3,500 Hp.?	☐ 5,500 Lb. Thrust?	☐ 5,700 Hp.?
☐ 4,000 Hp.?	☐ 6,250 Lb. Thrust?	☐ 6,000 Hp.?

The Wasp Major, which went into production with a rating of 3,000 horsepower, exceeds 4,000 horsepower in its latest version and is the most powerful piston engine in the world. The J-48, most powerful turbojet in this country, has a static thrust of 6,250 pounds, but its power is increased tremendously when afterburner and water injection are used. And you can be sure that, as development work continues on this power plant, its basic power rating will go much higher. The T-34, although it is in the early phase of its development cycle, is the most powerful turboprop now flying. It has officially passed its fifty-hour test at 5,700 horsepower, but Pratt & Whitney Aircraft confidently predicts its power will be increased by a very substantial margin.

WHAT TYPES OF PLANES USE THESE POWERFUL PRATT & WHITNEY ENGINES?

☐ Bombers?
☐ Fighters?
☐ Cargo Transports?
☐ Interceptors?

The big Wasp Major piston engines are used in many famous planes flown by the Navy and the Air Force. In addition to Consolidated's B-36 and Boeing's B-50 bombers, Wasp Majors are used in the Douglas C-124 and Boeing C-97 long-range transports, and the Fairchild C-119 and C-120 — all Air Force planes. In the Navy, it powers the Martin Mauler, carrier attack plane, and the Martin Mercator, patrol bomber. The J-48 turbojet already has been chosen to power three of the fastest fighters in the world — the Navy Grumman F9F-5 Panther, and the Air Force's North American F-93A and Lockheed F94-C. The T-34 turboprop, of course, is so new that to date it has only been test-flown. But its performance is so promising that already the Navy and Air Force are considering its use in several types of aircraft.

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Between the Lines:

Eggbeaters in Combat

By James J. Haggerty, Jr.

THE HELICOPTER never got into combat in the last war, but in the current embroglio it not only saw action but demonstrated what a valuable tool the egg-beater can be. Perhaps the work of the Air Force's Third Rescue Squadron in Korea best illustrates the combat abilities of the helicopter.

The Third Rescue is headquartered at Johnson Air Force Base, about 30 miles from Tokyo, Japan, but its operating bases were right behind the front lines in Korea. The squadron flies Sikorsky H-5 helicopters, which, at least until the time we left Japan a few weeks ago, was the only type windmill in the war theater.

As of the time we visited Third Rescue's headquarters, the outfit had flown something over 1,000 missions and had been credited with saving 365 lives—all this with only seven helicopters assigned and never more than five flying at once. At times Third Rescue was flying as many as 50 missions a day, or 10 per in commission plane, and flying some of the 'copters 18 hours a day.

Some of the individual exploits of the squadron's crews best illustrate the type of work the H-5's have been doing in Korea.

For instance, one H-5, piloted by Lt. Myron S. Hancock, is credited with saving the lives of 600 South Korean troops (although these are not included in the earlier life saving tally). Hancock, while flying along a beach on the east coast of Korea, sighted the South Korean unit and at the same time saw an encircling column of enemy troops about to cut them off. Hancock flew out to sea, contacted a Navy craft, and led it to the scene, where it quickly evacuated the South Koreans.

That was a more or less accidental rescue, but they do it on purpose, too. An Air Force fighter pilot crashed into the Sea of Japan on takeoff from a base in Japan. Eight minutes later Lt. Harry C. Jeffers of the Third Rescue had him aboard an H-5, perhaps an all-time rescue record.

Rescue Under Fire

A Navy fighter pilot crash landed his Chance Vought F4U Corsair 10 miles from Pyongyang, the North Korean capital, while it was still in enemy hands. The rescue 'copter, piloted by Lt. William Evans, had to fly all the way from Kimpo airfield, 125 miles south. It took him three and a half hours to make it, and the rescue was effected under heavy enemy fire, but the Navy pilot was back on his carrier the next day.

A British Navy pilot owes his life to the work of the Third Rescue. The pilot, Lt. Stanley Leonard, crashed north of Wonsan, behind enemy lines, and was seriously injured. Lt. David McDaniels, pilot of the H-5, and Capt. John G. Shumate, the medical attendant, were sent to his aid. The helicopter landed under enemy fire, the pilot was extricated from the wreckage, and Shumate gave him an emergency blood transfusion on the way home. Leonard was landed on the beach at Inchon just three hours and a half after he crashed and was immediately taken by launch to a hospital ship off shore.

The H-5's effected twelve such behind-the-line rescues of downed airmen, flying as much as 125 miles behind the lines, sometimes with fighter escort, some times without, and sometimes even at night. But the major work they did in the theater was not behind-the-lines rescue. Their chief job was flying critically wounded troops from the front lines to a field hospital. Helicopters were not used to evacuate every wounded soldier—only those whom the front line medics felt must have immediate hospital attention and who could not survive a jolting ride in a jeep or truck. The Third Rescue flew 353 such patients.

Ferried Medical Supplies

The helicopters were also used to rush badly needed medical supplies, especially blood plasma, to the front line areas where they were needed, and on occasions flew doctors and other medical personnel to the scene of action.

The helicopter became such a useful piece of equipment around the front lines that the Third Rescue had a problem on its hands—top Army commanders wanted helicopters for personal transport. It would have been very convenient, for travel by road in Korea is difficult. But Third Rescue just didn't have enough planes to go around.

The Korean war saw the first helicopter ever downed by enemy action and to Capt. Ferdinand L. Svore goes the dubious honor of being its pilot. Returning from a mission behind the lines to search for a downed pilot, Svore was following a road recently evacuated by the North Korean army, flying at an altitude of about 300 feet. Unknown to Svore, the North Koreans had mined the road with large anti-tank mines equipped with a clock which exploded them at a predetermined time. Just as Svore approached a railroad tunnel, one of the mines went off, sending rocks, dirt and debris high into the air, catching the helicopter in the blast and knocking it into the side of the tunnnel. Svore and his medical assistant escaped without injury but the plane was "scratched."

The Third Rescue lost four helicopters during the Korean war. Besides the one destroyed by the mine, the squadron lost another in the Sea of Japan en route from Ashiya, Japan, to Pusan, Korea, a 110-mile overwater flight; a third lost an engine too close to the front and the pilot was forced to abandon it, and the fourth was forced down behind the lines. In the latter case, fighter planes were sent next day to destroy it.

Third Rescue had the usual quota of maintenance problems, but nevertheless managed to keep the 'copters in service 53 per cent of the time.

The squadron flies other planes besides the helicopters: Boeing SB-29's and SB-17's, Douglas C-47's, Grumman SA-16's and Stinson L-5 liaison planes, but the accomplishments of the helicopters were the most newsworthy, particularly in view of the fact that it was their first combat duty. They left in Korea a notable record, one that impressed ground force commanders. We'll probably see a greater emphasis on the use of the helcopter in rescue operations as a result of its Korea showing.

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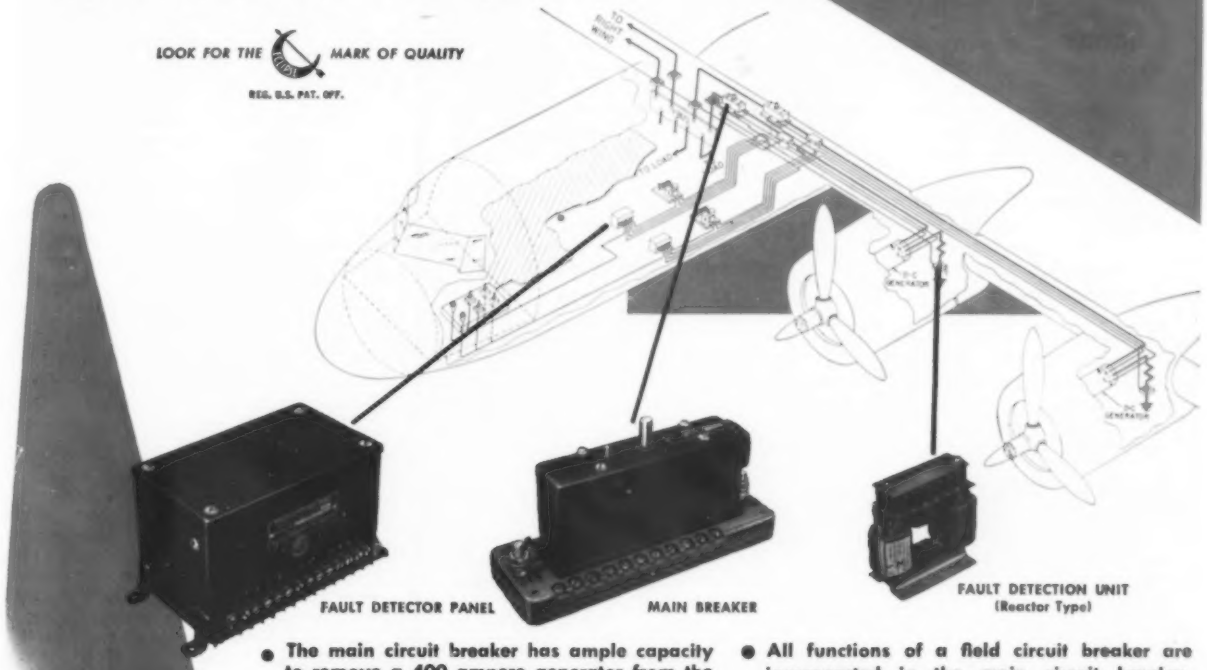

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- The main circuit breaker opens the generator feeder under all fault conditions before the reverse current relay opens.
- Provides back-up protection of reverse current relay.
- All functions of a field circuit breaker are incorporated in the main circuit breaker, thereby eliminating use of a separate field breaker.
- Complete and selective over-voltage protection is obtained by sensing generator output.
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Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

PRODUCTION SPOTLIGHT

Accelerated Production: **Airframe deliveries** in August, as reported jointly by the Bureau of the Census and the Civil Aeronautics Administration, reflected, for the first time, the start of accelerated production under the new military expansion programs. August deliveries totaled 4,002,300 airframe pounds, 1,101,600 pounds higher than July and 148,200 pounds more than April, which had been the highest month of the year. The eight months total for 1950 was 22,652,600 airframe pounds, which compares with 19,313,300 pounds for the first eight months of 1949. 87% of the August shipments were military.

Engine shipments in August reached a total of 4,862,400 horsepower, 4,763,700 horsepower, or 98%, of which was military. The eight months engine shipment total was 36,337,400 horsepower, compared with 28,632,700 horsepower for the first eight months of last year.

Employment in airframe plants in August was 180,186, up about six per cent from July's 169,230. Employment in engine plants remained about the same.

Shipments of civil aircraft totaled $12,299,000 in August, compared with $10,065,000 in July and $14,343,000 for August, 1949. Total shipments for the first eight months of 1950 were $98,709, down from last year's eight month total of $105,971,000.

MDAP Compensation: *Aircraft manufacturers are trying to work out with Mutual Defense Assistance Program officials some arrangement whereby they may be compensated for work that their representatives in foreign countries are doing under the MDAP program. No provision has been made for their pay as yet, and it is becoming a costly item.*

Research Command: The Air Force's Air Research and Development Command, headed by Maj. Gen. David M. Schlatter, will start actual operations May 15, 1951. To date ARDC has been only a planning unit. Headquarters will be temporarily located at Wright-Patterson AFB, Dayton, O.

Goodrich Fuel Cells: *The B. F. Goodrich Co. is manufacturing fuel cells for the Boeing B-47 jet bomber which have a capacity of 2,500 gallons each, the largest the company has ever produced. The cell is eight feet nine inches long, eight feet one inch wide and seven feet high. Goodrich is also manufacturing oil cells and other fuel cells for the B-47 which range in size from 300 to 900 gallons.*

10-Hr. Day Cut: Consolidated Vultee Aircraft Corp. has eliminated the 10-hour work day at its San Diego plant except for personnel working on the R3Y and XP5Y Navy turboprop flying boat projects. Employes working on the B-36 bomber modification program have returned to the normal 40-hour week with overtime when necessary.

Carrier Tests: *North American Aviation's AJ-1 three-engine Navy attack bomber has successfully completed a series of landings aboard an aircraft carrier. The Navy used an unloaded AJ-1, grossing about 35,000 pounds, heaviest weight ever to land on a carrier deck, for the tests. Each plane of Composite Squadron Five, NAS Norfolk, Va., made at least one landing on the 45,000-ton Midway Class carrier Coral Sea, which has a deck length of 968 feet. The flight tests were made off the Virginia Capes.*

Industry Deferments: Aircraft Industries Association has advised its members to file deferment requests on essential personnel in the manufacturing industry with local draft boards before the individual is classified, since under Selective Service regulations local boards are not required to consider appeals once an employe has been classified. With the rate of inductions expected to reach 100,000 a month sometime next year, the manpower problem of the aircraft industry threatens to become acute.

—J.J.H.

INDUSTRY PERSONNEL

Charles F. Nielson, director of parts and service, Lockheed Aircraft Corp., has been named president of the National Defense Transportation Association. One of three new vice presidents is **James W. Austin,** vice president-sales, Capital Airlines.

K. F. Leaman was named manager of Conslidated Vultee Aircraft Corp.'s San Diego Division on October 16. He

Leaman

Irving

had served as assistant division manager since last January 1. **Gage Irving,** a 20-year veteran in the field of aircraft management and manufacturing, has been named assistant to **La Motte T. Cohu,** president and general manager of Consolidated Vultee in San Diego.

I. M. Laddon, former executive vice president of Consolidated Vultee Aircraft Corp., has been elected a director of Hiller Helicopters. He also is a director of Convair, Rohr Aircraft Corp. and Menasco Manufacturing Co.

R. M. Paul, formerly assistant materials manager for the Curtiss-Wright Corp. at Columbus, has joined at Aeronca Manufacturing Corp. as materials manager.

William Shulver, Jr., has been appointed general traffic manager for Lockheed Aircraft Corp., in which capacity he will take over management of both traffic and transportation departments. **Marc T. Worst,** vice president-operations of Lockheed Aircraft Service, has assumed added duties as Burbank base manager, Shulver's former post. **Duane O. Wood,** works superintendent at LAS's MacArthur Base, Sayeville, L. I., N. Y., was transferred to Burbank as works superintendent.

August F. Hohl, former director of training of Northrop Aircraft, has been named director of training for Consolidated Vultee Aircraft Corp., supervising programs both for the San Diego and Fort Worth divisions with headquarters at the former.

Richard B. Clevering, formerly Dayton zone manager for the Allison Division of General Motors Corp., has been transferred to the Washington office as zone manager. **James E. Knott,** manager of sales engineering, will take over as Dayton zone manager. **O. C. Ricketts** will assist Clevering in Washington.

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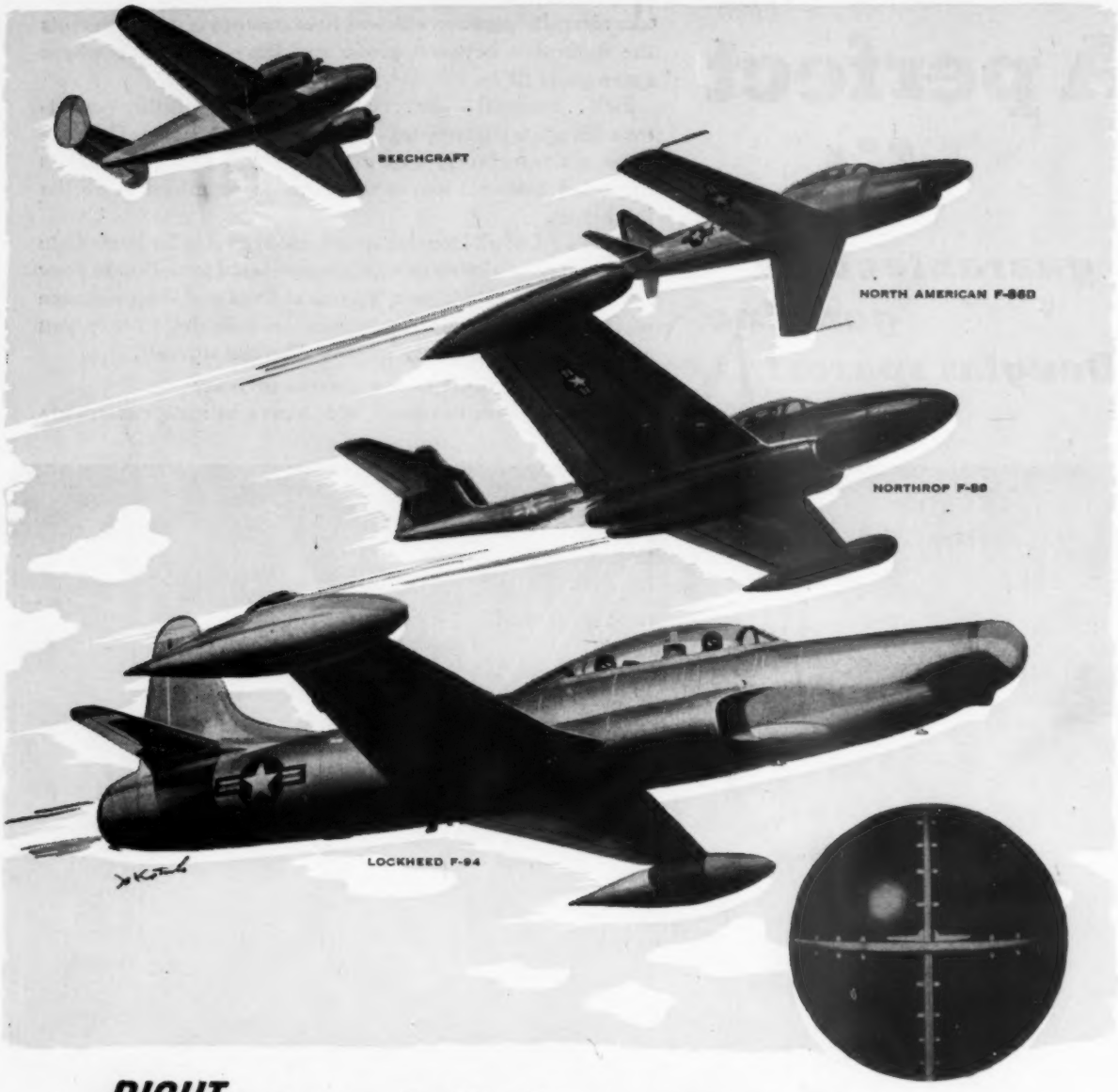

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World Trends in Jet Aircraft Design

Performance, Drag, View, Loadings

(Aircraft arranged in order of minimum speed)

Aircraft	Minimum Speed, mph TAS	Min. to Max. Speed Ratio	Wing Loading, lb./sq. ft.	Fineness Ratio (fuselage)	Pilots Forward View, Degrees	Parasite Drag at 100 ft./sec., lbs.	Maximum Weight, lbs.
English Electric Canberra NF-2 ...	94	6.17	48.0	11.2	11	111	46,000
Grumman XF10F-1	100	...	...	...	..	...	30,000
de Havilland Vampire 3	100	5.4	41.4	8.8	15	43	10,365
Convair F-92 Delta	100	6.4	58.7	6.7	10	41	13,500
Hawker Sea Hawk 1	101	5.95	48.5	7.4	12	58	12,500
McDonnell F2H-1 & -2 Banshee ...	102	6.17	44.2	8.2	10	69	13,000
Supermarine Attacker 1	103	5.73	53.8	7.1	12	56	12,170
Grumman F9F-2 Panther	103	5.97	56.0	6.9	12	56	15,600
Gloster Meteor 4	105	5.57	60.3	7.0	15	75	15,100
Grumman F9F-5 Panther	106	6.19	59.2	7.0	12	58	16,600
Republic F-84 Thunderjet	107	5.7	58.6	6.6	11	55	15,500
Douglas F3D-1 Skyknight	107	5.7	67.3	6.4	13	89	27,000
Gloster E1/44	108	5.86	52.5	7.0	13	52	13,350
Lockheed F-80 Shooting Star	108	5.6	64.0	6.8	8	57	15,300
de Havilland Hornet 3	109	4.5	49.5	7.7	13	96	17,878
Saab 29 (Swedish)	109	5.7	46.7	4.9	17	56	12,000
Supermarine 510	110	5.96	42.0	7.2	12	45	11,500
North American F-86 Sabre	114	5.87	50.0	7.0	9	49	13,715
SO. 6020 Espadon (French)	118	5.16	65.0	6.3	6	58	17,600
Chance-Vought F7U-1 Cutlass	119	5.5	40.9	8.3	10	75	21,200
Douglas XF4D-1 Delta	120	...	...	...	..	...	16,700
McDonnell XF-88 Voodoo	120	5.6	60.5	8.5	12	69	17,000
Bell X-1	127	5.83	103.0	6.3	1	41	13,400
Douglas D-558-2 Skyrocket	131	5.75	91.5	9.0	12	40	16,000
North American XF-93	132	5.45	82.0	6.5	12	68	24,000
Lockheed XF-90	134	5.0	97.0	9.8	12	71	29,000

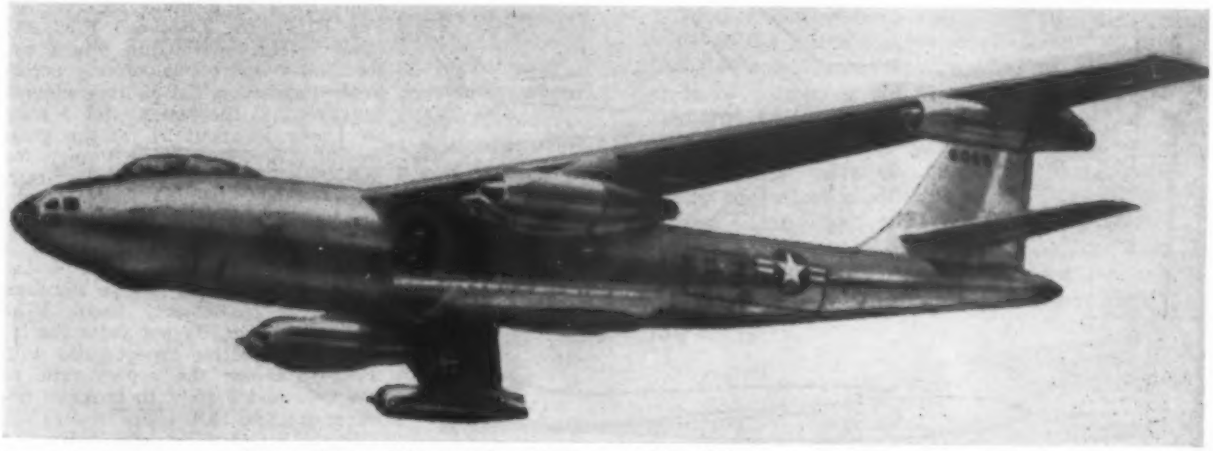
By RICHARD G. WORCESTER

Most of the figures in these tables have been obtained from the manufacturers and many appear for the first time. There are a few gaps in one table and some U. S. drag figures have had to be estimated, but there is enough here to show in broad outline some world trends in high-speed aircraft design.

In the table of performance and loadings the first thing to look for in the list of minimum speeds is the position of the ship-based aircraft whose entry speed must be kept low. Notice that of eight jets at the top, six are Navy designs. Apart from the F7U and F4D (whose landing speeds seem to be written in a different language) there are no Navy jets with a minimum speed of more than 107 mph. From the admittedly meager evidence in the other table there is no evidence that the lower landing speed is offset by any serious wing weight penalty.

The ratio of minimum to maximum speeds show which designers are getting the most well-behaved air particles over their wings. If all the aircraft above 6 are analyzed it will be seen that some have a low landing speed while others have a very high maximum speed and do the best they can at the minimum speed end.

The list of wing loadings portrays



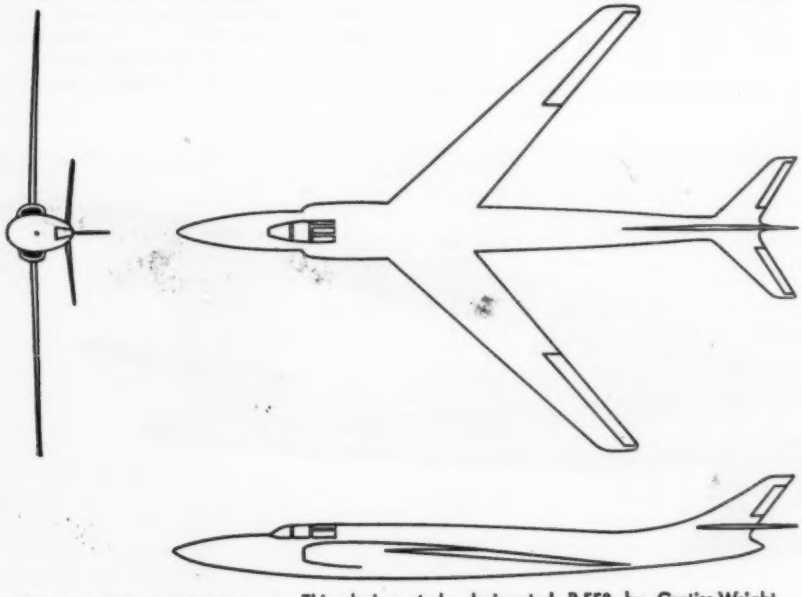
Second Prototype—A rare picture of the second prototype Boeing XB-47 makes it clear the veiled model has been used for armament trials. The main external change is to the bomb doors with three separate bulges. The first one extends about 18 feet of the 22-foot total bombay length. On this bulge is a streamlined bulge about 16 feet long which faintly traces the shape of the object inside. A third bulge plainly visible is at the aft end of the bomb doors and probably accommodates the fins of the bomb. The XB-47 has been to Special Weapons Command at Kirtland, N. M., for tests with atomic weapons. This second model is probably being used for research in loading, arming, aiming, firing and also dropping the atomic bomb at transonic speeds above 45,000 feet.

Wing Characteristics

(Aircraft arranged in order of thickness-chord ratio)

Aircraft	Thickness Chord Ratio (mean)	Aspect Ratio	Gross Wing Area, sq. ft.	Sweep 25% Chord, degrees	Ultimate Strength Factor	Wing Weight % of Gross Weight	Span, ft.	Max. Lift Coefficient, flaps down, power off
Convair F-92 Delta	6	3	230*	60	12*	...	31	...
McDonnell XF-88 Voodoo	7	...	280*	35	15*	...	39.6	...
North American XF-93..	8	5.6	290*	35	15*	...	39	...
Lockheed XF-90	8	5.0	310	35	15*	...	40	...
Douglas D-558-2 Skyrocket	9	3.5	175	35	18	...	25	...
Hawker Sea Hawk 1	9.5	4.97	268	straight	10	...	36.5	...
Gloster E.1/44	10.0	5.4	254	straight	10	16.5	36	1.7
Bell X-1	10.0	...	130	straight	18	...	28	...
North American F-86 Sabre	10*	5.4	274	35	12*	...	37	...
Douglas D-558-1 Skystreak	10	4.15	150	straight	18	...	25	...
Douglas F3D-1 Skyknight	10*	5.8	400	straight	10*	...	50	...
Supermarine 510	10	3.68	273	40	11*	...	31.7	...
Supermarine Attacker 1 ..	10.4	6.06	226	straight	11	14.8	36.0	1.65
English Electric Canberra NF-2	10.5	4.3	960	straight	10*	...	63.9	...
Grumman F9F-2 & -5 Panther	10.5*	...	280	straight	11*	...	38	...
Lockheed F-80 Shooting Star	11*	5.5	237	straight	11	14.95	38.9	.83†
Gloster Meteor 4	11.5	3.95	250	straight	10	12.8	37.1	1.4
de Havilland Vampire 3 ..	11.5	5.5	250	straight	10	12.5	40	1.57
Chance-Vought F7U-1 Cutlass	12*	3.0	496	35	...	...	39	...
Republic F-84 Thunderjet	12	5.1	260	straight	11	...	36.4	...
Saab 29	12*	5.04	258	25	10*	...	36.9	...
de Havilland Hornet 3 ..	13.3	5.6	361	straight	10	10.7	45	1.6
McDonnell F2H-2 Banshee	22-10	...	294	straight	...	...	41.6	...

* Estimated. † 0° angle of attack and M.3.



Heavy Navy Fighter—This design study designated P-558 by Curtiss-Wright is a large Navy fighter. The air intakes and general size of the airplane seems less than C-W's four-engined project, the XF-87. Two modern engines like the Allison J-35-A-23 engines, wet-rated at 8,500 lbs. static thrust, would provide ample power. The wing has a small chord and a large aspect ratio and although it is a large aircraft the reduced span due to the swept wings would not be too awkward for CVB or even CV class of carrier.

the sympathetic climb of wing loadings with minimum speed but the F7U and Supermarine 510 have low loadings for their high landing speeds while the F3D has a surprisingly low landing speed for its high wing loading.

The next column of fineness ratios shows some aircraft like the F2H have a high ratio by using a very slim body while others like the F-90 have a big body but of almost unprecedented length for its span. Observe the slightly Gilbertian figure for the plump Saab 29. The F7U has a high figure considering it is tailless or semi-delta and the ratio for the F-92 is more typical of this category.

When considering the forward view over the nose look again at the Navy aircraft, and with the exception of the Sea Vampire 20 (same as the Vampire 3) every one lacks the minimum angle of 15°. All these jets however are a marvelous improvement over the 4° of the wartime F4U and the British Seafire.

Parasite Drag

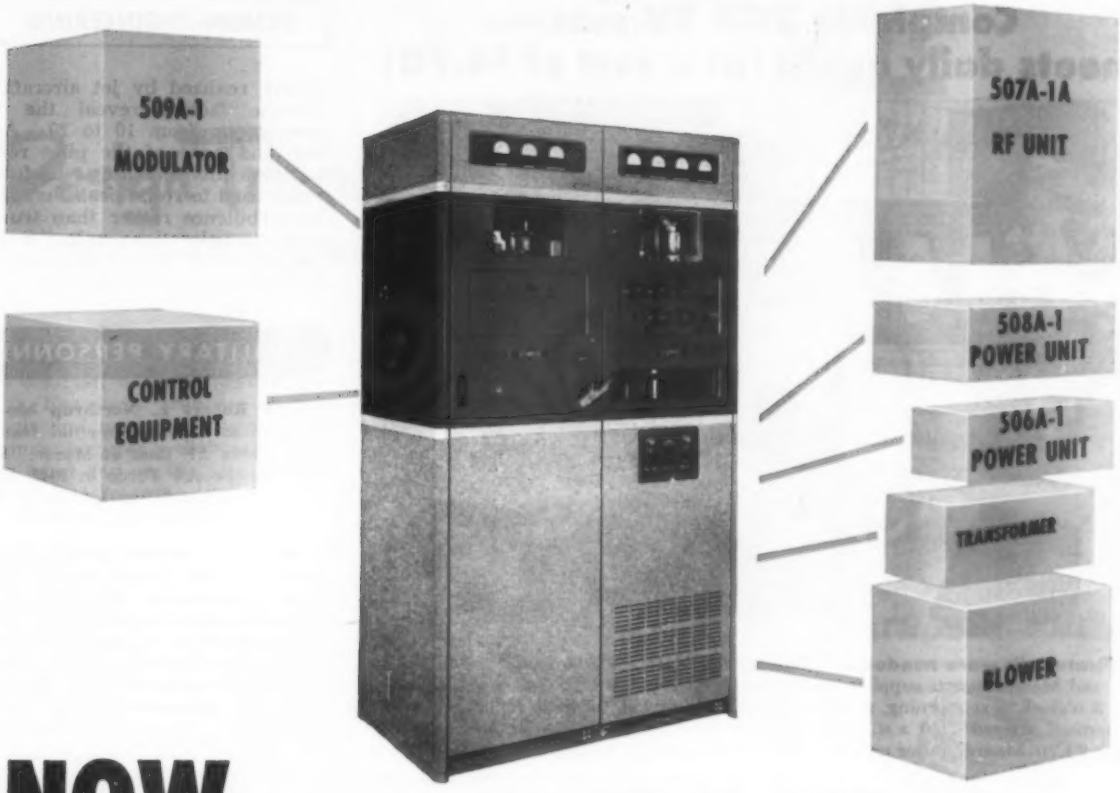
The parasite drag figures show in the de Havilland Hornet (inserted in the tables only for comparison) that the piston engine even when smoothed to perfection is full of built-in eddies by jet standards. Observe at the bottom of the table how the greedy intakes of the F-90 impose a greater penalty than the well-fed rotundity of the F-93.

Considering briefly the table of wing characteristics it is noteworthy how many aircraft now have wings less than 10% thickness-chord. The F-92 can have the staggeringly low t/c because the delta wing structure lends itself to a plate-like rigidity. The E1/44, the Lockheed F-90 and other aircraft with thin wings use steel alloy spars but looking across to the incomplete list of wing weights suggests that the penalty for a solid steel spar is about 2% of the gross weight. A heavy price to pay for the low t/c and high ultimate factor.

Aspect Ratios

Aspect ratios, mostly 5.5, show a few aircraft around 3 and 4—the Meteor, considering it is a standard fighter, is particularly small. The tables, however, do not show the increase in effective aspect ratio with wing-tip tanks; the aspect ratio of the F-80 and F-90 with tanks is between 9.5 and 10.0.

In the list of wing areas notice the substantial increase in area when a straight wing is swept. Compare the areas of the X-1 and the Skyrocket, the Attacker with the Supermarine 510. The isolated lift coefficient figures do not show any definite trends except to confirm the general sort of



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Another combination, not illustrated, is the Type 434B-1 one KW, two simultaneous-channel CW-FSK only, manual tuned transmitter, which is made by combining two 507A-1 RF units, two 506A-1 power units, a 508A-1 power unit, a 2-bay cabinet, and a 1 KW blower. Several other combinations are available, one of which is certain to satisfy your exact needs.

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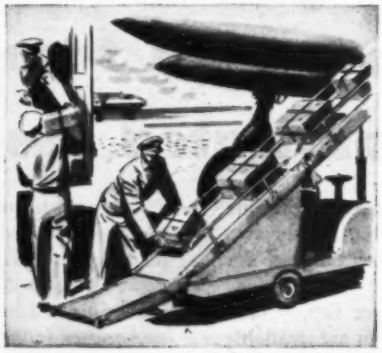

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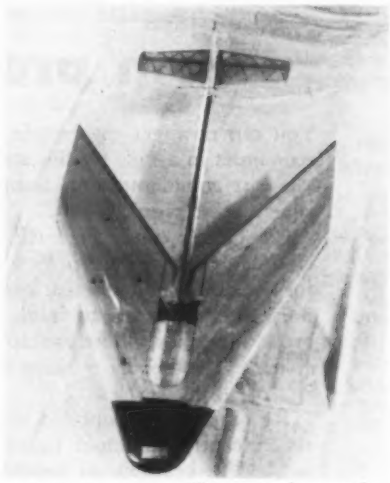
DESIGN-ENGINEERING

CLmax realized by jet aircraft. The ultimate factors reveal the trend creeping up from 10 to 20. As the flesh and bone of the pilot remains the same this increase is useful only if it is used to resist peak bumps during turbulence rather than true maneuver accelerations unless it is accompanied by prone position cockpits or improved anti-g suits.

MILITARY PERSONNEL

Capt. Robert L. Northrup has been assigned as an experimental test pilot at Edwards AF Base at Muroc. Before entering the Air Force in 1942, he was a sales representative for Trans World Airlines in Kansas City.

Brig. Gen. Thomas H. Chapman, for more than two years chief of the Air Force procurement field office in Los Angeles, has been reassigned as chief of the maintenance division, Air Material Command, Wright-Patterson AFB. He will be succeeded in Los Angeles by **Brig. Gen. Donald F. Stace,** formerly commanding general of the Middletown, Pa., base.



60° Sweep—This wind tunnel model being investigated at the NACA Langley Laboratories shows that a wing with a semi-chord line swept back 60° need not be a clumsy arrangement if untriangulated. Gust research on this particular shape showed that the load from penetration of a given gust decreases rapidly as the wing is swept either forward or backward. The load for a 60° wing swept-back is about half that of an equivalent straight wing. This is therefore the strongest reason for using this amount of sweep either in this form or with the trailing edge filled in as a delta wing for very high speed airplanes.

Design Trends

By Richard G. Worcester

BECAUSE it is so easy to lose money in building civil aircraft, the design of commercial projects can be summed up as the science of the probable and in contrast, military developments are rather the art of the possible. Aviation, like many branches of light engineering, is a curious mixture of iron logic and mercurial insight. Unlike nuclear physics aviation presents to the manufacturer a dichotomy of unlimited pure research for defense on the one hand and on the other a rigid control of collective economics—now known as "macro-economics"—governing civil ventures.

•

It is, however, not the complexity but the competition and the number of red herrings drawn across the path of progress which accounts for the taut atmosphere in the aircraft industry. These red herrings range from the military sponsoring at stupendous cost an abortive family of new fighters (which is the present situation) down to small details like the damage to runways by jets. The effect on industry of red herrings is pure frustration because the manufacturer feels that no matter how prescient his staff may be, some unexpected factor can be calucuated to upset the most carefully laid plans for the future.

•

It is often said that we need one design of fighter for Korea and police actions round the Asiatic rimland and an entirely different type for the full-blooded semi-push-button Third World War involving interception of 500-mph jet bombers escorted and supported by long-range penetration jet fighters, and so forth. The simple common solution to both military situations is the low wing loading fighter. A few extra feet on the wing is like the fencer having a few extra inches on his sabre.

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How does it come about that aviation in democratic countries is sometimes stricken by a kind of mysterious malaise. Why has the USAF ignored the turbo-prop? Why did Britain order a conventional four-engined 100,000-lb. transport in 1948 instead of 1945? Why have the French no heavy bomber? Why? It would be interesting to know what steps organizations like the AIA and the SBAC took to try and prevent these desperately serious lapses. Quite apart from anything else, it was so commercially and militarily imprudent to let major developments get by-passed in this way.

•

It always seems to me a great pity that it is seldom possible to give any extensive indication of the furtility of imagination in the various project departments in the industry and operational research groups in the services. The ideas for delivering an atomic bomb, for instance, range from missiles which shed a wing in flight; unarmed fighter-bomber adaptations like the XB-51 and Canberra; missiles which dive under the sea; aircraft with fuselages which separate; tailless aircraft of all kinds; seaplanes; convertaplanes taking off from ships' decks; aircraft which can burrow under the ground; semi-saucers which trail a glider fuel tank or a glider bomb; external carriage under the A2D; delta wings; canards, and practically everything except the ornithopter, it seems.

•

The experiments which have been going on in the U. S. and in Britain with the Armstrong Siddeley Mamba to **run modern turbines on coal dust** show a trend in fuels. But it is as well to remember that the trails of incombustible gas behind the General Electric J-47 and the late model Rolls-Royce Derwents, among other engines, are evidence that combustion assemblies, even with existing fuels, are far from perfect. The Navy has a top requirement for gas turbines to run on bunker fuel used for the ship's propelling machinery.

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AIRWORK SUCCESS STORY:

Fixed Charges for Quality Engine Overhaul

By WILLIAM D. PERREAULT

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Last month Repair Station 3507, Airwork Corporation of Millville, N. J., totaled up its year's operations —found the gross volume for fiscal 1950 was well over $1.5 million. With this established, Airwork officials made an important decision: they set up a profit-sharing plan which will distribute 25% of the profits, before taxes, among all employes. This year employes will share $45,000 profits proportioned according to longevity and salary.

The same year-end roundup showed the company's net worth in excess of $500,000 and shop equipment alone valued at over $175,000. This is the company which in September of 1946 had its beginning when six men invested a total of $80,000 capital and, with 21 employes launched a shop to overhaul aircraft engines and accessories.

Service With Low Rates

In one of the toughest competitive periods in the history of the aircraft engine overhaul business, Airwork Corp. has forged ahead by providing quality service at reasonable rates. This has been made possible by A-1 labor relations, intelligent site location, a keen sense of business and all-around ingenuity.

Early in October Trans World Airlines renewed its contract with Airwork covering the overhaul of all its P&W R-2000 engines, the engines in the Douglas DC-4's. This will be the third year in which Airwork has handled all TWA R-2000's. During the period approved overhaul life of TWA's R-2000's has moved from 900 hours to 1,400 hours and the trend is still upward.

When TWA found it advisable to farm out overhaul work on the R-2800 CB-16 engines which power their new Martin 2-0-2A's until their own shops were ready for the work, it again turned to Airwork. The Millville firm will overhaul the R-2800 engines for about six months, according to present plans.

Most of the overhaul charges at Airwork are handled on a flat price basis. TWA knows in advance what the price of each overhaul will be. With few exceptions, such as complete crankshaft replacements, there are no added costs. Airwork maintains a stock of engines of models which it overhauls and is in a position to exchange engines or rent flight time on engines as well as to overhaul used units or sell new ones. Airwork normally overhauls about 45 engines a month, provides deliveries about 30 days after receipt of the engine.

Carrier Hires Engines

Trans Caribbean Airways hires engines from Airwork on a fixed charge per hour of flight. When the engine needs overhauling Airwork provides the replacement. Cost of a service such as this is about $3-3.50 per hour. Three of Trans-Caribbean's C-54's, which Airwork provides engines for, are rented to Eastern Air Lines.

Also overhauled at the Millville plant are all of Colonial Airlines' R-2000 engines; R-1830's and R-2000's for CAA, and R-2000's for the Coast Guard. Most of the Babb Company's east coast engine overhaul work is handled by Airwork and this contract has also produced considerable related work. At one time the company overhauled 140 P&W R-1340's for Babb on a special contract.

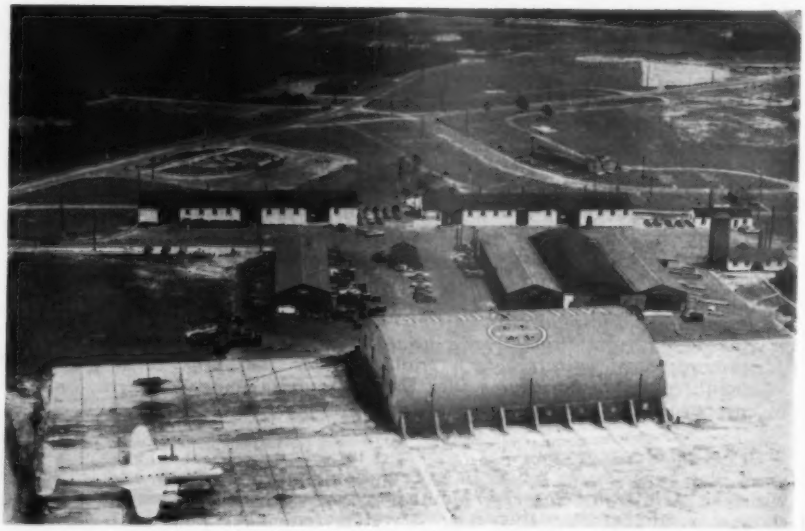
Other contracts have included sales of surplus overhauled engines to the Chinese Nationalists, Turkish State Airlines and Greek TAE Airlines The company handles recurring overhaul work for the latter. It is also modifying a number of R-1340 engines for the Coast Guard adapting them to helicopter installations.

No small factor in Airwork's ability to thrive in a competitive market is its location. Millville is a small city with a good labor market. City officials welcome the industry which this firm represents, the employment which it creates both directly and through purchasing power which it generates. Consequently rent of the city-owned facilities is reasonable and cooperation excellent. As Airwork President Francis Hine expresses it: "Millville has backed us to the hilt."

Has 18 Buildings

Airwork leases some 75,000 square feet of building area from the city

(*Continued on Page* 40)



Air View—This aerial photo shows the close relationship of the Airwork Corp. facilities in Millville to the municipal airport, served by All American Airways. Although multiple buildings could be a handicap, Airwork has turned them into an asset by establishing self-contained, efficient departments to take care of specific projects.

Airwork's Engine Maintenance Facilities

Parts Cleaning

Inspection

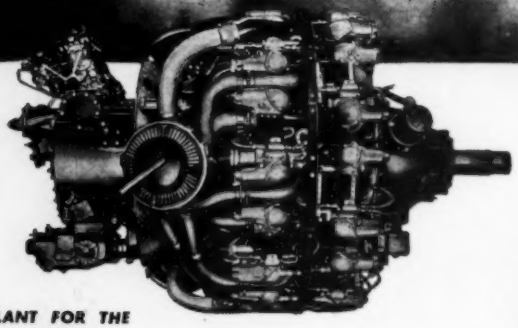
Rework

$350,000 Stock

Component Testing

Engine Test

Shipping



***POWER PLANT FOR THE DESTROYER** — The compounded power of 2 Wright Turbo-Cyclone 18's . . . each rated at 3250 h.p. for take-off . . . provides reduced fuel consumption for long range operation . . . provides a 20% power boost.*

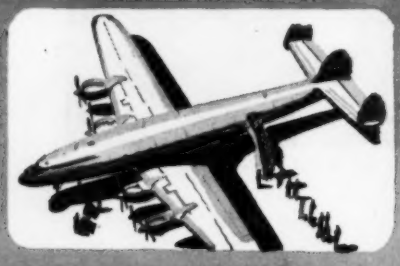
Destroyer..

From the versatile family of Wright Cyclones comes the power that meets the differing needs of these aircraft . . . economical power . . . power ideally suited to long-range operations.

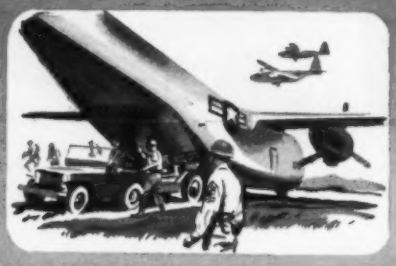
▶ **The Lockheed P2V-4 Neptune** . . . U. S. Navy long-range patrol bomber . . . is powered by two Wright Turbo-Cyclone 18 compound engines. This descendant of the famous "Truculent Turtle" brings to its anti-submarine warfare operations great stamina, long range and heavy striking power.

▶ **The Piasecki H-21 Rescuer** . . . a Wright Cyclone 9 powers the great 44 foot rotors of this U. S. Air Force's Arctic Rescue Helicopter . . . which lands as readily on snow and ice as on water or marshland . . . without changing the landing gear.

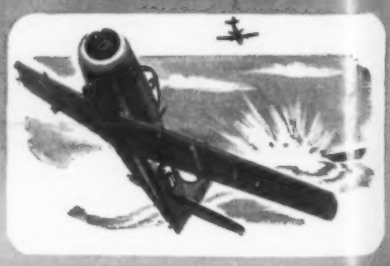
Lockheed Constellation



Chase C122 Avitruc

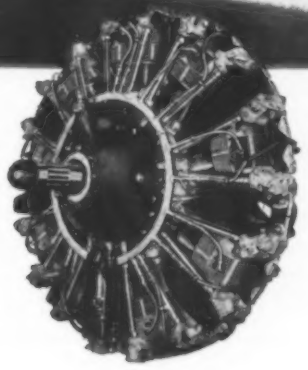


Douglas Skyraider



...OR Rescuer

▶ The six aircraft shown below do other important jobs. Each has its own special power needs—and Wright engines power them all. The future will bring new needs, and Wright engineering and production teams are ready to handle them.



POWER PLANT FOR THE RESCUER — *The Wright Cyclone 9 in the Piasecki H-21 is rated at 1525 h.p. and has a low specific weight of .91 lbs. per h.p. Other advantages are . . . outstanding cooling characteristics, service accessibility, simplicity of maintenance.*

WRIGHT Aeronautical Corporation, Wood-Ridge, N. J.
A DIVISION OF CURTISS-WRIGHT CORPORATION

Martin PSM Marlin

North American T-28 Trainer

Northrop C125 Raider

TECHNICAL NEWS DIGEST

• **Air Materiel Command, USAF, has designed a new** emergency keyer which when used automatically tunes the radio transmitter to the emergency channel and continuously transmits the plane's identification or call sign plus a series of SOS's and radio signals for homing purposes by search equipment. A single switch puts the emergency keyer in operation.

• **CAA has issued an air agency certificate** to Aircraft Maintenance International at New York International Airport designating it an approved repair station. AMI will now handle maintenance work for domestic carriers as it has in the past for foreign carriers.

• **The first five of a supplementary VOR series** of radio facilities charts have been released by the Coast and Geodetic Survey. Charts 39, 40, 47, 48 and 49, corresponding with the existing low-frequency radio facility charts, are in the first group. They are punched so as to face corresponding low-frequency charts when inserted in the book. Emphasis on the new charts is placed on the high-frequency aids with low-frequency aids shown only by a small special symbol.

• **Capital Airlines' use of the Goodyear cross-wind** landing gear, installed on their three Super-DC-3's, has been effectively blocked by CAA-imposed limitations restricting the free-wheeling gear to use in maximum winds of 15 mph crosswind component. Actually the same airplane with fixed gear is allowed a 20 mph crosswind component. Thus to use the cross-wind gear Capital must accept a penalty.

• **The Atomic Energy Commission has contracted** with Texas Engineering and Manufacturing Co. for modification of a Douglas C-54. The nature of the modification was not disclosed.

• **NACA's Gas Dynamics Laboratory,** a $3,813,679 facility for investigating aerodynamic phenomena in high-speed flight, is now under construction at Langley Aeronautical Laboratory near Hampton, Va.

• **Chicago & Southern Air Lines has awarded a contract** to Lockheed Aircraft Service International for overhaul of hydraulic pumps, superchargers and drive shafts for the C&S Lockheed Connies.

• **First of four Douglas C-54's being converted** by Transocean Air Lines for the Coast Guard has been completed. Work includes installation of provisions for four Aerojet JATO units, blister windows and other equipment for use in search and rescue work.

• **Boeing engineers have designed an analouge computer** for solving lateral and longitudinal rigid body flight equations of airplanes and control surface actuators. The unit is noted for its relatively low cost—$4,000-$5,000,—and simplicity of operation which permits intelligent use after one day's training. In designing the Boeing flying boom, the company claims, the BEAC accomplished in one week what would normally have required a year.

• **USAF has ordered an undisclosed quantity** of FC-10, the rain repellent developed by the National Research Council of Canada and now being marketed in this country by Regal Air Corp., New York, N. Y., The manufacturer claims FC-10 improves visibility by more than 80% over that of untreated windshields.

• **ICAO representatives from Australia,** Canada, France, New Zealand and the U. S. have been meeting in Sydney, Australia, discussing plans for converting from radiotelegraphy to radiotelephony in the South Pacific. The radiotelephone stations needed for the new services covering the Australia-North America route are being installed at Canton Island, Fiji, New Caledonia and Sydney, Australia. They are scheduled to be in operation by November 15.

• **Aircraft Engines and Parts Corp., New York,** has acquired the shops and operation of American Air Service, Charlotte, N. C. Included is complete equipment for overhaul of P&W engines, instruments and accessories.

(*Continued from Page* 36)

on a 15-year contract. This area is made up in some 18 buildings which are located on the perimeter of Millville Airport (see photo). All American Airways operates regular schedules into the airport and practically to the company doorstep. Major highways link the facilities with the airline centers north, south and to the west. Most of the engines overhauled by Airwork are shipped in by truck.

The quality of the labor market is reflected in the quality of workmanship and company-employe relationships. There is no labor union at Airwork. The profit-sharing plan mentioned was initiated by management. The employes produce both work and useful ideas. A brief walk through the shop highlights many labor-saving devices growing out of employe suggestions.

Airwork doesn't specialize in gimmicks. When there's an efficient tool available at reasonable cost they purchase it. An example: the $4,000 tool just purchased for assembling crankshafts during engine build-up. There's also the 26-inch lathe for line boring and internal threading of crankcases, boring and threading of crankshafts in conversion of conventional crankshafts to hydromatic-type propeller installations, etc. These are but a few of the large pieces of equipment purchased for highly specialized jobs which increase Airwork's customer service potentials.

Airwork Executives

President .....Francis L. Hine
Executive Vice President .....
.....J. V. Thompson
Vice-president—Sales .....
.....Paul D. Myers
Vice-president—Operations .....
.....Tom Dickson, Jr.
Secretary and Service Manager ..
.....J. Stevens Gillespie
Public Relations, David Dows, Jr.
Sales Manager—Distributor Div.
.....Charles Abbatello
Operations Dept. Scheduling ....
.....Tom Thorne

Makes Special Tools

But where the proper tool is not available Airwork makes its own. For instance, there's the rotary file for setting piston-ring gap clearance. A small unit, adapting parts from automotive applications, was designed which files both ends of the piston ring simultaneously. The open end of the ring is fitted over the top of the wheel-type file. An electric motor drives the file and provides almost instantaneous ring adjustments.

Overhauled engines had been re-

Great Airlines All

...with one vital element in common!

Here grouped are the insignia of 16 leading U.S. airlines.

And linking these far-flung airlines, as well as 18 foreign airlines, is the fact that nearly all of the hundreds of planes they use daily are equipped with vital accessories designed and manufactured by AiResearch.

For AiResearch equipment is on every type of U.S. commercial transport manufactured during the past few years. Today we produce more types of air conditioning, pressurization and temperature control equipment for both military and commercial high speed, high altitude aircraft than any other concern in the world.

AiResearch is currently producing 560 aircraft assemblies, each designed to do a different job. These fall into eight basic categories: temperature controls, electric-electronic equipment, cabin superchargers, air cycle air conditioning, gas turbines, pneumatic power units, heat transfer equipment and cabin pressure controls.

We are proud to salute the great airlines of America who have shown their faith in these vital components precision engineered by AiResearch.

And we intend to continue to justify this faith by relentless pioneering in the field of high altitude, high speed flight.

AIRESEARCH MANUFACTURING COMPANY • LOS ANGELES 45, CALIFORNIA

AiResearch
DIVISION OF
THE GARRETT CORPORATION

NOTICE!

Announcement is made herewith to all airlines, domestic and overseas and all operators of transport aircraft that the Frank Ambrose Aviation Company has available the largest inventory of functional and operational aircraft materials of any supply house in the U. S.

This inventory includes complete Pratt & Whitney engines, Hamilton Standard Propellers, engine parts accessories and components. All material fully guaranteed of the finest quality. Send all orders and inquiries to our Flushing office for faster service.

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AVIATION COMPANY, INC.
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EXPORT LICENSE NO. 191 ESTABLISHED IN 1933
CABLE ADDRESS "AIRAMBROSE"
BRANCHES
Miami International Airport, Miami, Fla.
11844 West Jefferson Blvd.
Culver City (Los Angeles County) Calif.

OPERATIONS & MAINTENANCE

flecting a shortcoming in common cylinder assembly methods. Valve guides were not seating properly with the result that erosion was common and replacements routine. Airwork designed a simple hydraulic unit which uses 950 pounds' hdraulic pressure to seat the guide during installation. This corrected the problem and virtually eliminated this type of replacement.

Airwork devised another machine of even greater economic significance in its machine for regrinding knuckle-pin holes in master rods at its own factory. Normally these are shipped back to the factory for rework. Using a standard internal grinder and a precision jig of its own design, a method of accomplishing the same job at about 25% of factory rework cost was evolved. In an hour's time a master rod which might have been discarded (cost about $650), or shipped back to the factory with resultant delay, now is put back into service.

Difficulties were experienced with the standard tool used in spinning the piston while ring grooves were cleaned. An air actuated device was designed which features a telescoping piston pin arrangement. Spring-loaded pins lock the piston in place and an air cylinder draws it up tight against a base plate while a motor spins the piston at high speed for cleaning operations. In this case the unit provided added safety, eliminating the possibility of the pin coming loose as had sometimes been experienced.

Cylinder Lapping Unit

Similarly the company has designed its own machine for lapping cylinders. It is powered by an electric motor and actuates the piston in the cylinder at higher speeds and with greater uniformity than the regular air-actuated unit. It also rotates the piston during the lapping operations automatically. It makes short work of the 500-or-so strokes required to bring the surfaces to the proper finish.

Now well under way is Airwork's complete new plating shop. It will occupy one of the 18 buildings and make it possible for the company to do all required plating work on its own premises. In this 20 x 50-foot building every piece of equipment is new, direct from the manufacturer. It will handle cadmium, silver, copper, etc.

All of these facilities help reduce spare parts inventories to a minimum. Even so Airwork has a parts inventory of about $250,000 and this is being boosted to $350,000 to minimize the effect of slow deliveries brought about by the present engine production step-up.

As authorized representative for Pratt & Whitney, Continental Motors Corp., and others, Airwork does $30-40,000 business a month in spare parts. It markets products of Champion Spark Plug Co., Bendix, Packard, Jack & Heintz, Pesco Products, U. S. Royal, etc., This sales load is shared by the Miami office where Airwork is distributor for Bendix Scintilla and Bendix Stromberg. When the airline-distributor relationship is finally agreed upon, the Miami office has a potential market of about one-quarter million dollars per year.

Accessory Overhaul

In the same manner in which it handles engine overhauls and sales, Airwork does a volume business in engine accessories, overhauling and exchanging units on a flat price basis. The accessory shop employs about 10% of the company personnel and accounts for 10% of the yearly dollar volume. Typical work includes about 50 pressure carburetors and 125 magnetoes overhauled each month. It has one of the few pressure carburetor flow benches in private overhaul shops.

It's difficult to predict what effect the present mobilization will have on Airwork. USAF teams have labeled Airwork as a 100-engine-per-month overhaul shop. To minimize the effect which such a military demand would have on its commercial business, the company has set aside enough space to handle both demands simultaneously if the need should arise.

Meanwhile, Airwork is expanding its facilities, equipment and service. There are now 19 stockholders, all within the corporation, including the six original investors. In this way the principal stockholders keep their fingers on the pulse of Airwork's operation and insure its healthy growth.

TECHNICAL LITERATURE

SOLDERING GUNS: Weller Electric Corp., Easton, Pa., is offering a new soldering gun catalog illustrating the complete line of Weller guns and related equipment.

LIFE JACKETS: Air Cruisers Co., 32 Wellington Ave., Clifton, N. J., has issued an eight-page catalog containing data on its life jackets along with pertinent engineering data and a brief resume of Air Cruisers' history.

TORQUE TOOLS: Richmont, Inc., 2810 East 11th St., Los Angeles 23, Calif., has available a 16-page illustrated catalog titled "Proper Torque by Richmont, Inc." The catalog describes Richmont's line of torque testing equipment and torque tools and includes a catalog and price list.

For Vital Control Circuits in Curtiss Electric Propellers

American Airlines' Convair Flagship equipped with CURTISS ELECTRIC propellers

IT'S BENDIX-SCINTILLA ELECTRICAL CONNECTORS

. . THE FINEST MONEY CAN BUY

CHECK THESE ADVANTAGES

- Moisture-proof
- Radio Quiet
- Single-piece Inserts
- Vibration-proof
- Lightweight
- High Insulation Resistance
- Easy Assembly and Disassembly
- Fewer Parts than any other Connector
- No additional solder required

Unfailing dependability is the standard set by Curtiss propellers and American Air Lines in their selection of equipment.

Bendix-Scintilla is therefore the logical choice for the electrical connectors in the Curtiss Electric propellers on American Flagships.

In fact, wherever circuits must be arranged to connect and disconnect with ease and certainty Bendix-Scintilla is the choice.

Remember whenever there is no compromise with quality—it pays to specify Bendix-Scintilla electrical connectors—the *finest* money can buy.

Write our Sales Department for detailed information.

BENDIX SCINTILLA

SCINTILLA MAGNETO DIVISION OF BENDIX AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York

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a Great Name Carries On..

WARNER!

FOR years, the Aviation Industry has respected the name "Warner" in aircraft hydraulics.

Always it has meant *quality* and *precision* work of the highest calibre.

Now, reorganization has breathed new vitality into its research, management and production.

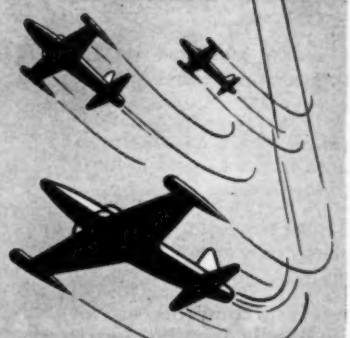
Warner is in the Aviation Industry to stay.

It continues as always to make its famed Hydraulic Valves.

Besides this new leadership, the only change is from the name Warner Aircraft Corp. to Warner Division, Clinton Machine Company.

You can expect even greater things from Warner—sound improvements, finer products—

Products worthy of carrying on the great name they bear!



Warner DIVISION
Clinton Machine Company
20263 Hoover Rd. • Detroit 5, Mich.

Extra Section

By William D. Perreault

OUR GOOD friend **Jack O'Donnell,** safety engineer with American Airlines and one of the most active men in the field of aviation safety, dropped us a note regarding the "object lesson" in this column October 16. He enclosed a copy of a safety bulletin circulated to AA employees relating to the same aircraft fire, caused by a spark from a blower motor igniting fuel fumes, exploding and causing about $50,000 in damage. Jack stresses that proper equipment, in this case an explosion-proof motor, rather than general procedures is of prime importance. We couldn't agree more.

•

The accompanying illustration is taken from an interesting and useful poster being circulated by RCA for posting near radio transmitters and in allied locations. It includes brief general in-

formation, action to be taken following first, second or third degree burns and illustrated instructions for the prone-pressure method of resusitation.

•

How many CAA approved repair stations are there in the U. S.? **Charlie Planck** tells us there are 411. Whenever you see a story on CAA, large or small, important or trivial, there's a good chance Charlie or his associates in CAA's Aviation Information, **Howard "Bing" Bingham** and **Lee Willis,** have had their hand in it. They work with the press and with private citizens to trace elusive bits of information about civil flying, put you in touch with the CAA man handling a particular project, etc. These are three men who really produce a lot of useful information but seldom get credit for their efforts.

•

The November issue of REDBOOK magazine carries an inspiring story of Thomas "Red" Johnson, a Delta Air Lines mechanic who lost his sight. "Red's" blinding was not an industrial accident, but the way in which his fellow employes at Delta, right on up to President C. E. Woolman, worked with Johnson and his family during those early trying days is heartening. This combined effort, coupled with personal stamina which earned "Red" the title of vice-president in charge of inspiration, has made it possible for him to return to his old job at Delta and resume his normal life.

•

Several times in recent weeks the question of metal shortages has raised a point as to the amounts of steel, aluminum, etc., in a piston engine. Reviewing **Earle A. Ryder's** interesting SAE paper "Recent Developments in the R-4360 Engine" we found a good general answer. In the 3,500-pound Pratt & Whitney R-4360 engine, 49% of engine weight is steel, 36% aluminum and 9% magnesium. Ryder, a consulting engineer with P & W adds that there are about 12,000 parts in the engine 1,400 different kinds.

Both U. S. & British Approach Lights Acceptable to IATA

Progress in many of the important phases of airline operations, engineering and maintenance is reflected in the report of the Technical Committee of the International Air Transport Association. In his lucid report Technical Committee Chairman C. C. Steensma (KLM) outlined the year's work to the sixth annual meeting of IATA in San Francisco.

One major objective of IATA's technical committee has been to insure that approach light installations proceed as quickly as possible. Toward this end the international airlines have agreed that they will be satisfield with either the Calvert (British) system or the slope line system (U. S.). In this light the committee reiterated that it could see no more sense in standardizing on one system over another than in standardizing on coffee over tea.

The international operators also stressed that they "will do everything practicable to ensure that their new aircraft are able to land into higher cross winds than ever before, thereby reducing the number of runways required." This means that IATA will support the cross-wind landing gear or more highly stressed gears permitting higher cross-wind components during routine operations. ATA recently endorsed a similar program (AMERICAN AVIATION, Oct. 16).

Air Traffic Control

Two important decisions relating to air traffic control were embodied in comments that the airlines should accept planned routes even though it meant "a reasonable departure from the most direct route." This would provide more uniform, safe and expeditious flow of traffic in high-density areas. Also, the ATC goals should be revised to provide for the control at altitudes well above 12,000 feet, the current limit in high-density traffic areas, in order to take care of high-flying, turbine-powered aircraft.

That IATA has not lost sight of the varying ATC problems posed in different areas of the world was underlined in the report that an ATC panel and two local subordinate panels had been established to solve the problems peculiar to the European-Mediterrean region.

IATA operators face a new problem, the committee reported, in the matter of handling administrative messages on fixed communications services. Recently the International Telecommunications Union discovered the airline practice of sending administrative messages, including reservations data, over these facilities and objected. ITU classifies these as "private telegrams" and wants them paid for at commercial rates. As a result negotiations are underway to provide a clear-cut definition of acceptable and unacceptable practices and to establish a suitable financial arrangement. At best airline communications costs would appear to be due for an increase.

Radio Fone Standards

Another IATA group is now undertaking to develop standard radiotelephone communications procedures suitable for application on a worldwide basis, Steensma reported. He noted that an analysis of R/T operations on certain international routes has "indicated that radio telephony can technically be considered as a primary means of transmitting the necessary information between aircraft and the appropriate ground stations with status equal to wireless telegraphy."

Joint meetings of IATA, ICAO and the International Meteorological Organization established new standards for weather data reporting which should improve existing levels of knowledge on this subject. In particular it was established that the height of pressure surfaces must be known within 30 feet, the temperature within 2°C. and the wind within 10 knots. Towards this end the airlines will attempt to provide more accurate reports of conditions encountered in flight.

ICAO has suggested that rules establishing maximum flight times for crews (1,000 hours per year and 300 per quarter year) be adopted. IATA has called on member airlines to provide data to prove that "hours in the air need not necessarily be limited to ban crew fatigue." Toward this end a study group of the Medical Panel is now collecting facts on flight-crew scheduling. This data will be used in November during technical committee meetings and may be the basis for suggesting an alternate method of minimizing crew-fatigue problems.

AMONG THE SUPPLIERS

Norman L. Winter, prominent in air traffic control and navigation work, has been named director of special electronic sales for **Sperry Gyroscope Co.** He will head up sales of products and engineering developments in electronic tubes and microwave components to military and commercial customers.

Winter

Durham Aircraft Service, Inc., Woodside, N. Y., has opened a new branch at 21st and D Streets, Miami, at the International Airport, with **Bob Myer**, formerly manager of the Pittsburgh branch which is now closed, in charge of the new office. Durham's offices at Tulsa, Okla., Municipal Airport have been moved to 6416 E. Tecumseh, P. O. Box 5, Dawson Station, Tulsa.

American Electroneering Corp. of Los Angeles, producers of aircraft instrument test equipment, power supply units, etc., has moved to new and larger quarters at 5025-29 West Jefferson Boulevard. Plant superintendent will be **Joe Funderburg.**

BLASTING BEAUTY!

Sleek, high-speed, powerful—the Martin XB-51 is the Air Force's first postwar plane specifically designed for supporting our ground forces.

Blasting enemy supply lines and installations to help keep our ground forces rolling—that's one of the roles the new Martin XB-51 is designed to play in America's preparedness program! It's a teamwork bomber—versatile, powerful, super-fast, highly maneuverable, designed to be capable of operating from combat area fields. Its lines are clean and graceful, yet radically different. A unique power plant arrangement includes two jets mounted on fuselage pylons and a third in the tail. Drastically sweptback wings, a T-shaped tail and tandem landing gear—plus many other features still classified under military security regulations—make it as modern as tomorrow!

Like all Martin developments, the XB-51 is the product of a highly skilled engineering team. Electronic, aerodynamic, metallurgy research, servo-mechanism studies—all play their parts in the technical leadership Martin offers its customers today. All play their parts as Martin extends research frontiers in advanced design aircraft, rocketry, jet propulsion, supersonic missiles and other far-reaching fields! THE GLENN L. MARTIN COMPANY, Baltimore 3, Maryland.

Powered for faster starts, the Martin XB-51 is designed to have great versatility for operations to and from smaller combat area fields. For landings, the new Martin bomber has a parachute stowed aft which may be released

at the pilot's discretion for more rapid deceleration.

Martin
AIRCRAFT
Builders of Dependable Aircraft Since 1909

Manufacturers of: Military aircraft • Martin airliners • Guided missiles • Rockets • Electronic fire control and radar systems • Precision testing instruments **Developers and Licensors of:** Mareng fuel tanks (to U. S. Rubber Co.) • Marform metal-forming (to Hydropress, Inc.) • Honeycomb construction material (to U. S. Plywood Corp. and Aircraft Die Cutters) • Structural adhesives (to U. S. Plywood Corp. and Bloomingdale Rubber Co.) • Permanent fabric flameproofing (to E. I. duPont de Nemours & Co.) • Hydraulic automotive and aircraft brake **Leaders in** Building Air Power to Guard the Peace, Air Transport to Serve It.

ing air power's to America

air power to guard the peace, air transport to serve it! That's the story Martin advertising develops for millions of alert American readers. Attention-getting advertisements like this reach the general public and business circles in *Time*, *Newsweek* and *Business Week* . . . explain aviation's important role in our country's preparedness program and in the development of travel facilities. "Martin Air Memos" bring news of latest developments to the men and women who write and edit the news through *Editor and Publisher*, *American Press* and *Publisher's Auxiliary*.

engineering has become food for discussion even among laymen in this highly technical age. So this advertising also highlights the manner in which Martin *systems engineering* is meeting the challenge of tremendously complicated air power needs. Today, the Martin engineering staff is designing aircraft and missiles as integrated air-borne systems, not merely as flying vehicles. Martin design work embodies electronic flight and navigational controls and military armament or passenger facilities, as well as airframe and power plant. And the complete development of the aircraft or missile is so scheduled that the end product represents a completely coordinated system.

A well-informed public . . . fully aware of preparedness needs, problems and measures . . . is one of the finest safeguards for peace. Martin advertising helps spread the facts!

THE GLENN L. MARTIN COMPANY, Baltimore 3, Maryland.

Martin
AIRCRAFT

Builders of Dependable Aircraft Since 1909

NEW PRODUCTS

DC Motors

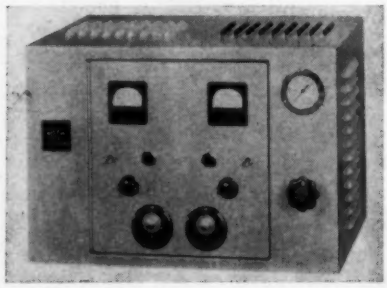
Lear, Inc., 110 Ionia Ave., N.W., Grand Rapids, Mich., has introduced a line of small lightweight 26-volt DC motors available in continuous-duty models with rated outputs to .5 horsepower and intermittent - duty models with outputs to two horsepower. Available with any of following features: "Fastop" clutch for positioning control of devices of friction load type; electromagnetic brake for positioning control of small motor applications requiring extreme holding torque or imposing large load inertias; thermal protector, load and temperature sensitive, for protection of motors under conditions of maximum stress; mounting option including either flange or base-type mounting and radio noise filters to meet requirements of specification ANM-40. Corrosion-resistant and designed to operate over ambient temperature range of from minus 65° F. to plus 165°.

Oil-Resistant Wire

General Electric, Bridgeport 2, Conn., has announced Geotrol, a new gasoline- and oil-resistant wire. The manufacturer claims it is the first non-lead covered wire of its type to be listed by the Underwriters' Laboratories, Inc. Specifically designed for wiring installation where petroleum products are likely to cause deterioration of conventional wire. Elimination of lead covering gives considerable saving in cost, weight and installation time. Conductors are insulated with vinyl compound and sheathed in jacket. Available in black, white, red, green, orange, blue and yellow and in sizes 14, 12 and 10 Awg.

Hot Dimpling Control

Industrial Electronics & Transformer Co., 8655 S. Main St., Los Angeles 3, Calif., has developed an automatic control device to control temperature for hot dimpling of aluminum alloys and associated processes. Composed entirely of static elements, the INET unit is protected against vibration, shock, moisture and variations in ambient



temperatures. Signal from the temperature-sensitive element is applied to a first stage of magnetic amplification which regulates the main power magnetic amplifier. This regulates the electrical power applied to the heater of the dimpling die. Die temperature adjustable over a wide range. Available for operation with portable or stationary dimplers in sizes from 100 W to 100 KW.

Recording Camera

Fairchild Camera and Instrument Corp., 53 West Union St., Pasadena 1, Calif., has developed a new data-recording camera from a basic design by North American Aviation. The 35-mm motion-picture-type recorder features remote selection of from four to 16 frames per second, with constant exposure rate regardless of frame speed. Provisions made for single-frame operation, triggered either manually or by intervalometer. Integral counting circuits provided for remote frame identification. Mounts Mitchell magazines of 400-/or 1,000-foot capacities. Power requirements are 28 volts or 110 volts optional. Tested in temperature range of minus 60° F. to plus 160° F.; at accelerations up to 12 G's and at altitudes up to 60,000 feet.

Stamp Box

Acromark Co., 418 Morrell St., Elizabeth 4. N. J., is marketing a new revolving holder for steel stamps designed to make individual steel letter and figure stamps more readily available to the user. It holds a full set of figure stamps and several extra character stamps plus special symbols, fractions, etc. Plainly marked for easy location of the stamps. Made of wood, aluminum finished with the indexing characters printed in black for maximum visibility.

Concrete Drill Bits

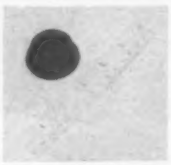
Concrete Termite Drill Co., 2095 Foothill Blvd., Pasadena 8, Calif., has introduced a new line of concrete drill bits, known as "Stubbies," designed for drilling holes in concrete and masonary. Overall length is 4 inches, for holes ranging from ¼—⅞ inches in diameter in increments of 1/16 inch. Shank diameters range from ¼" to ½" and may be used in electric drills, air motors or a hand brace.

Check-Slip

R. M. Hollingshead Corp., 840 Cooper St., Camden 2, N. J., has introduced "Whiz Check-Slip," a self-polishing floor finish certified as anti-slip by Underwriters Laboratories, Inc. Manufacturer states that Underwriters' tests showed 60% more protection against slipping with "Check Slip" than usually required to qualify as anti-slip. Co-efficient of friction of the new plasticized resin protective film ranged from .70 on rubber tile to .80 for asphalt tile and linoleum. Friction coefficient is said to improve with age and usage. Suitable for all types floors—asphalt or rubber tile, linoleum and wood.

Microphone Housing

Scott Aviation Corp., Lancaster, N. Y., is marketing a rubber housing which fastens a microphone to emergency smoke masks. It buttons into opening in mask and is cemented in place. Radio transmissions can be made while the pilot is wearing the emergency smoke mask without obstruction to vision. Variations are available for all masks, Scott reports.



Rotary Actuator

Airborne Accessories Corp., 25 Montgomery St., Hillside 5, N. J., is marketing model R-430 and R-440 Rotorette rotary actuators. Originally designed for USAF fighters, the Rotorettes are suitable for valve operations and similar applications, weigh about one pound and feature load-limiting switches adjustable to any value up to 50 pound-inches. Both units designed to meet AN-M-40 requirements including noise filters and integral brake. Model R-440 is similar to R-430 except that provisions are made for a position-indicating potentiometer or intermediate position switch where either feature is desired.

Electrical Conduit

National Electric Products Corp., Pittsburgh, Pa., has been granted a patent on an improved flexible electrical conduit for use in applications involving high-frequency currents including radar equipment, radio, etc. It consists of an inner woven tubing made of longitudinal Fiberglas yarns and a spiral wrapping of metal foil, with an outer braided jacket of aluminum wire. It uses less metal, is lighter and more flexible, the company claims, affording more uniform shielding and providing better resistance to damage from moisture, flame, oil spray and fungus.

New York City . . . Likely Lab for 'Copter Passenger Tests

By William V. Henzey

The so-called "tunnels" of the air in and around New York City are slated to become a major proving ground for the development of helicopter passenger transportation.

Initially, if the Civil Aeronautics Board adopts a recommendation of one of its examiners, the rotary-wing service will be provided for passengers traveling between La Guardia, Idlewild, and Newark Airports.

This would be an experimental step and would serve as a gauge for expansion of the operation to and from suburban towns surrounding New York. Other areas likely to see similar experiments are those surrounding Los Angeles and Chicago where mail and cargo helicopter services are currently being operated.

The inter-airport proposal was recommended for the initial venture in the New York area because it would be the easiest and safest operation for experimentation since there would be no landing area problem and facilities are available for handling of traffic.

Immediate Benefits

However, there are immediate advantages to the public, presently certificated airlines, and airport operators. According to CAB Examiner Ferdinand D. Moran, there is a distinct "inbalance" in airline schedules at the three major New York airports. By providing helicopter shuttle service between them, he reasons, airline operations could be scheduled in and out of these airports without regard to the requirements of connecting services.

In fact, he added, the airports would be brought closer together in time and permit the Port Authority to coordinate their traffic, equalize their burdens and to utilize each of them to its full capacity on a unified basis.

Further, Moran said, while there is no substantial evidence as to the extent of the passenger potential that exists for inter-airport passenger service, traffic now moving between them stands to benefit in a large measure because of the improved service that would be afforded over present circuitous surface routings.

Recommended to operate such a service is New York Airways, one of three applicants in the Board's so-called New York City Area Helicopter Service Case. The other two, either of which may be selected in the Board's final decision, are Metropolitan Air Commuting and Island Air Ferries.

Helicopter Problems

Despite the progress now being made in the shaping of initial route patterns, however, there is an acute equipment problem and even a final decision by CAB in the pending case may precede by a year or two actual inauguration of a passenger helicopter operation.

On this, Moran said that the carrying of eight or more passengers by helicopter over congested areas involves a wholly new concept of air transport and points up the desirability of equipment which employs some form of multi-engine or auxiliary power.

Sikorsky, Bell, Piasecki, and other manufacturers have initiated studies for the purpose of producing twin-engined models which can continue flight on one engine if necessary.

However, best estimates at present are that as much as two years may be required before such aircraft are certified for commercial passenger operations.

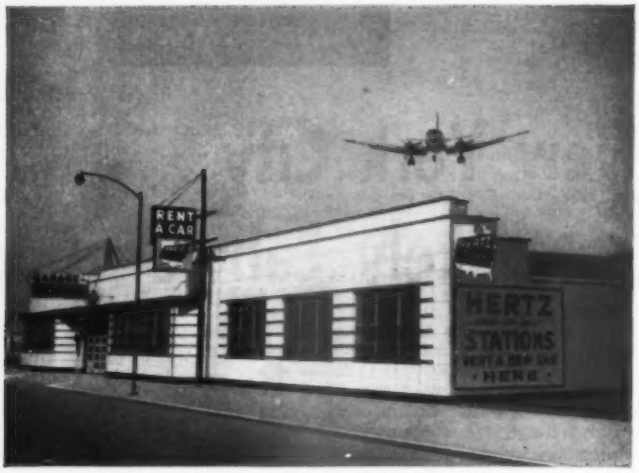
Adequate Equipment

Adequate helicopters, Moran said, are not only necessary to make a large impact upon the potential passenger market but it would appear that passenger service on an extensive scale should not be attempted until proved multi-engine equipment is available and equipped with the latest devices for navigation and operation.

For the future, however, rotary-wing service is contemplated in New York, not only between airports, but between airports and Manhattan and between airports and suburban areas. With airline space above the city and

Lucky Sign—When Northwest Airlines personnel returned to Kimpo Airport late last month to prepare for resumption of service to recaptured Seoul in South Korea, one of the few objects found to have survived the intensive bombing and strafing of the airfield by both sides in the Korean war was this NWA sign. Shown holding the sign are two unidentified U. S. Marines, who discovered it as they spearheaded the drive into the Korean capital. NWA is now operating one round-trip weekly between the U. S. and Seoul, which will be increased to two weekly in the near future.

Only **HERTZ** can deliver cars to your passengers at the airport in **450** cities!



The Hertz station at the Chicago airport where rental cars are available day and night to incoming air travelers. Other Hertz airport stations are being added as required.

Thus the Hertz-conceived . . . Hertz-built Plane-Auto travel plan promotes air travel

Hertz maintains airport stations in these key cities

Long Beach, Cal.	Charlotte, N. C.
Palm Springs, Cal.	Greensboro, N. C.
Hartford, Conn.	Canton, Ohio
Tampa, Fla.	Cleveland, Ohio
Atlanta, Ga.	Cincinnati, Ohio
Chicago, Ill.	Dayton, Ohio
Carbondale-Murphysboro, Ill.	Toledo, Ohio
Hammond, Ind.	Portland, Ore.
South Bend, Ind.	Pittsburgh, Pa.
Lexington, Ky.	Sharon, Pa.
Louisville, Ky.	Providence, R. I.
Baltimore, Md.	Charleston, S. C.
Bedford, Mass.	Memphis, Tenn.
Boston, Mass.	Nashville, Tenn.
St. Louis, Mo.	Midland-Odessa, Texas
Whitefish, Mont.	Salt Lake City, Utah
Newark, N. J.	Newport News, Va.
Teterboro, N. J.	Yakima, Wash.
Carlsbad, N. Mex.	Madison, Wis.
New York, N. Y.	Milwaukee, Wis.
Rochester, N. Y.	Toronto, Ont., Canada
Syracuse, N. Y.	Honolulu, T. H.

And in *so many other ways,* too, can Hertz serve air line travelers with wholly satisfactory car-rental convenience. Hertz is the only national, and international, car rental system, with service available throughout the United States, Canada, Great Britain, Hawaii and Cuba. Travelers trust, and depend on, Hertz' 25 years' experience. Travelers *know* that when they rent cars from Hertz they will be *properly* insured. Hertz' rates are published rates, and there are no hidden charges. You want the best for your customers in everything, isn't that true? Then your answer... in profitable, traffic-building Plane-Auto service . . . is to advertise, promote, and sell the Hertz Plane-Auto Travel Plan!

NOTE: Godfrey-Davis, Ltd., largest car rental organization in Europe is *exclusively* a licensee member of the Hertz Driv-Ur-Self System, Inc., and meets reservation passengers with cars at any airport, or hotel, in England, Scotland, Wales and Northern Ireland, or, if desired, anywhere on the Continent.

HERTZ *Driv-Ur-Self* **SYSTEM**

National Headquarters **218 South Wabash Avenue**

Chicago 4, Illinois

surface and underground areas saturated almost beyond capacity, the helicopter will utilize the air "tunnels" above the ground but under regular aircraft ceilings to provide a needed transportation service.

Even before passengers are so transported New York will receive a mail and property service—probably by the recommended New York Airways. Moran suggested the line be certificated for five years to operate such a service to any or all points within a 50-mile radius of the city.

Its passenger certificate, likewise, will be for five years but equipment developments in the meantime coupled with experience gained in the property operation appear certain to guarantee an interim amendment to expand the passenger operation beyond its original limitations.

CAB CALENDAR

Nov. 13—(Docket 4405) Hearing in Southwest Airways-West Coast Airlines Merger Case. 10 a. m., Room E-214, Temp. Bldg. 5, Washington, D. C. Examiner Edward T. Stodola.

Nov. 13—(Docket 3041 et al.) Oral argument before the Board in U. S.-Europe-Middle East Cargo Service Case (Seaboard & Western Airlines, et al.) 10 a. m., Room 5042, Commerce Building, Washington.

Nov. 13—(Docket 4228 et al.) Hearing in Philadelphia-Transatlantic Service Case. 10 a. m., Conference Room "C," Departmental Auditorium, Washington. Examiner Herbert K. Bryan.

Nov. 15—(Docket 4603) Prehearing conference in North Central Route Investigation Case. 10 a. m., Room 1011, Temp. Bldg. 5, Washington. Examiner to be designated. Postponed from November 7.

Nov. 27—(Docket 3854) Hearing in Modern Air Transport Exemption Case. Tentative. Examiner William J. Madden. Postponed from November 20.

Choosing Seats—Passengers in Pan American's Miami terminal selecting Convair seats as they buy their tickets. Details in "Over the Counter" column (right).

Over the Counter

Sales Promotion

AN IMPORTANT but little-publicized job of educating postal officials to the advantages of selling air mail and air parcel post service is being done by a small group of airline men who are members of the air mail committee of the **Air Transport Association.** The idea originated several months ago when these mail-cargo representatives decided they were missing a bet by not appearing at various postmasters' conventions, meetings of postal clerks' union, etc., and making a pitch for air mail. Rather than a dry speech, they decided on a skit. **Howard Brooks,** who does air mail promotion for **Pan American World Airways,** undertook to write one. Then, using funds from ATA's appropriation for air mail promotion, the group hired **Dick Doncian,** of Batten, Barton, Durstine and Osborn ad agency, to coach the actors and polish the script. The 22-minute humorous skit was entitled "Inside USPO" and the reports are that it has been going over with a bang. Cast includes Brooks; **Ben Sherwood, American Airlines'** mail-express superintendent; **Lionel Rogers,** AA's assistant superintendent; **Ed Skinner, Eastern's** air mail-parcel post manager; **Bill Pluchel, TWA's** mail-express manager, and **John Eichner, Capital's** assistant mail-cargo manager. Three local airline girls are also used. In the western appearances, for example, they were **Shirley Nelson, Continental; LaVerne Tomosa, Frontier,** and **Aileen McKenna, Western.** So far they've played to over 6,500 Post Office employes, latest appearance being at the national postmasters' convention in St. Louis. Other Shows, for postmasters, clerks, supervisors, etc., have been given in Washington, Sandusky, Saratoga Springs, Cleveland and Denver. ATA funds also paid for the set, which weighs between 1,000 and 2,000 lbs. and which is shipped ahead of the players. Plans are already being made for more appearances. The airline representatives believe the idea is paying off in increased mail business. They're doing a good job for the entire industry.

Pan American-Grace Airways, out after the Oriental travel from South America across the Pacific, has printed a timetable in Japanese (it printed one in Chinese a short time ago) . . . **Northwest Airlines** is distributing the 1950-51 edition of its 18-page annual hunting guide. The guide is illustrated with drawings of game to be found in various localities, together with route drawings showing nearest airports along NWA's system.

Passenger Service

PAN AMERICAN World Airways has been permitting passengers on certain flights to select their own seats as they purchase their tickets, and will adopt the practice as standard procedure on all flights as soon as the system can be set up. PAA states that the plan eliminates the jamming around the gate at departure time and the sprint across the ramp to get a favorite seat. Here's how the system has been working on Miami-Havana and Miami-Nassau Convair flights: a seat diagram for each flight hangs on the wall behind the ticket counter. Over each of the 40 seats is a detachable numbered stub. When the passenger is documented and buys a ticket, he picks a seat on the chart. The seat stub is detached from the chart and stapled to the ticket envelope. Seats are assigned on a first-come first-served basis at ternimal only. They can't be selected in advance because of the large number of tickets sold through travel agents. Picture in adjoing column shows two passengers selecting their seats from the diagram.

A Goal Insuraide flight insurance dispensing machine has been placed in operation in **Air France's** office at 54th St. and Fifth Ave., New York. Machine issues Continental Casualty Co. policies in $5,000 units up to $25,000 covering transportation anywhere on international system of Air France and connecting carriers.

Ticket Offices

THE **Flying Irishman,"** non-scheduled ticket office in Hollywood, is being operated by a receiver following filing in court of involuntary bankruptcy petition against the company. Creditors filing the petition and amounts they allege were owing are: Republic Air Coach System, $17,641; Sky Coach Agency Inc., $3,155; Sky Coach Air Travel Inc., $8,942. Petition indicated that the "Flying Irishman" sold tickets on any non-sked at 40% commission and grossed as high at $21,000 in one week. Company also operated offices in San Franciso, New York, Boston and Chicago. **Columbia Air Coach,** another large non-sked agency, has closed its Los Angeles street level office pending decision by company and creditors on what action may be taken.

Traffic and New Services

SCANDINAVIAN **Airlines System** has inaugurated weekly all-cargo service to United Kingdom, Germany and Scandinavia . . . Constellation equipment is now being used exclusively on all **TWA** international flights . . . **All American Airways** has resumed service at Dover, Del. . . . **Pan American World Airways** is now serving Beirut, Lebanon, once weekly with Stratocruisers.

ERIC BRAMLEY

TWA
Your biggest air travel bargain now better than ever!
TWA's NEW CONSTELLATION SKY COACH
NEW YORK—LOS ANGELES $110
NEW YORK—CHICAGO $35
CHICAGO—LOS ANGELES $85
Federal Tax extra
See your travel agent or call Trans World Airlines
Across the U.S. and overseas... you can depend on TWA

33 Cities and 16 years...

Thirty-three *important* cities — from New York to Miami...from New Orleans to Havana, Cuba — lie along the route served by National Airlines, the Airline of the Stars.

In its 16 years of operation, National Airlines has become *known* for fine equipment, fast flying time, passenger comfort, and courteous service. *All* of these are provided to the *highest degree* in National's famed STAR flights — DC-6 Luxury PLUS!

Airline of the Stars

NATIONAL ☆ Airlines

Speech in Mexico—Speaking in Spanish, George C. Van Nostrand, vice president and general manager of American Airlines de Mexico, delivers the opening address at the tenth anniversary dinner commemorating the granting of its operational certificate to AA de Mexico. Seated is Lic. Augustin Garcia Lopez, Mexico's secretary of commerce.

American to Push Mexican Travel in 1951 Advertising

American Airlines will spend over two million pesos ($231,215), or nearly 30% of its 1951 advertising and sales promotion budget, for the promotion of pleasure, vacation, business and educational travel from the U. S. and Canada to Mexico.

This information was given out by George C. Van Nostrand, vice president and general manager of American Airlines de Mexico, in a speech at a banquet commemorating the 10th anniversary of the granting by the Mexican Republic of a certificate of operation to American Airlines. Operation began in 1942.

Speaking before more than 200 prominent government and business officials of Mexico, Van Nostrand said American has demonstrated a powerful faith in Mexico's destiny by investing large amounts of risk capital in the country. He said that since AA de Mexico was established, the parent company has made capital investments amounting to about $1,750,000 and has spent an additional million dollars in promoting tourist travel to Mexico.

Telling of his company's plans to develop ever-increasing travel "south of the Border," he said newspaper advertising of travel to Mexico will appear in 143 U. S. newspapers in 80 cities with a combined circulation of 27,060,928, in addition to using full-page four-color ads featuring Mexico in the *Saturday Evening Post*, *Time* and *Holiday* magazines.

WILCOX ...First Choice of Bonanza airlines

BONANZA AIR LINES SELECTS WILCOX TYPE 428 FACTORY PACKAGED VHF STATION *For All Ground Stations*

A* WILCOX *Factory Packaged Station offers you:

1. OPERATING CONVENIENCE

Conveniently grouped controls, telephone handset, typewriter, filing cabinet, and writing desk assure efficient operation.

2. INSTALLATION ECONOMY

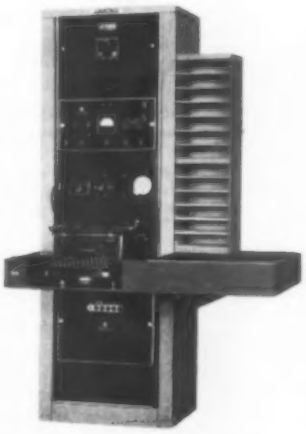
The 72-inch-high standard relay rack is completely wired at the factory. Just install the antenna, plug the station into any standard electrical outlet, and it's ready for operation.

3. MAINTENANCE EFFICIENCY

All adjustments are made from front panels. Plug and receptacle connections permit instant removal of all components. Simple circuits minimize the number and types of tubes, require no special training or test equipment.

DEPENDABLE COMMUNICATIONS FOR THE WORLD'S AIR LINES

In recent months many of the world's foremost air lines, UNITED, EASTERN, TWA, MID-CONTINENT, BRANIFF, PIONEER, ROBINSON, HAWAIIAN, SOUTHERN, and WISCONSIN CENTRAL, have placed volume orders for Wilcox equipment. No greater compliment could be paid to the performance, dependability, and economy of Wilcox equipment than to be **"FIRST CHOICE"** of this distinguished group.



The Type 428 Packaged VHF Ground Station includes 50 watt Transmitter, Receiver, Power Supply, and Antenna.

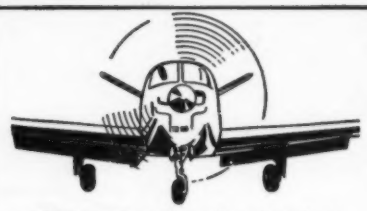
Write Today... for complete information on the Wilcox Type 428 Packaged VHF Ground Station.

WILCOX ELECTRIC COMPANY

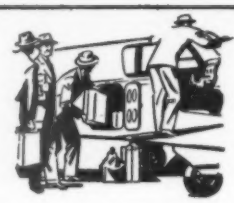
KANSAS CITY 1, MISSOURI, U. S. A.

Gear your company to a faster selling pace . . . with a company-owned Beechcraft

There's more time for field work when you cruise there and back at 170 mph. Your executives "take off and go" on their *own* schedule because this completely equipped plane is ready for action — day or night.



"At home" on big city airport or short field alike. New Beechcraft propeller adds to take-off performance. Take-off hp rating increased to 196 at 2450 rpm. Steerable nose-wheel for better maneuverability.



Plenty of room for "sample" cases! Oversize baggage compartment. And it's easy to get at, inside or out. Entrance from cabin is zippered. Want *more* luggage room? Back seat removable in three minutes flat!

Remarkably low operating costs make treasurers happy! Fuel consumption 9.5 gallons per hour. Just 56% of engine's rated horsepower used while cruising. Means fewer engine repairs—an extra safety margin.

No "travel fatigue"—even on long trips. The Bonanza gives you a 750-mile range...and it will be completely *comfortable* travel in the sound-proofed, roomy cabin. Four can ride in stretch-out comfort.

Safety far beyond usual standards. All-metal framework is stronger than conventional construction. In shock and stress tests it far surpassed CAA requirements. Wide, long wheel base is *rugged*; smooths rough landings.

Because it's designed to excel in not just one category but in all important ones, the Model B35 Beechcraft Bonanza is the leading seller in its class. Inspect it today at your Beechcraft distributor's or dealer's. Or write for full information on your company letterhead to Beech Aircraft Corporation, Wichita, Kansas, U. S. A.

Top speed, 184 mph
Cruising speed, 170 mph
Range, 750 miles
Fuel economy, 9.5 gph

Beechcraft
BONANZA

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

Travel Agents See Record Tourist Year Ahead in '51

Barring a change in world conditions, another big travel year is coming up in 1951, in the opinion of the people whose business it is to promote and sell travel.

Those people—members of the American Society of Travel Agents and the transportation, hotel and tourist representatives who appeared on the program at ASTA's annual convention in Washington November 1-3—are quite bullish about next year.

The convention theme was "What's Ahead in 1951?" and the answers were all on the optimistic side. Speakers from Great Britain, Europe, Jamaica, Bermuda, Cuba, Egypt and sundry other points were confident that they would attract more vacationers from the United States next year than this year or possibly any year. This, in turn, presaged probable lush profits for the more aggressive travel agents and tidy profits for nearly everyone in the business.

Sharing in the predicted travel boom would be airlines, steamship lines, bus and rail companies, as well as hotels, resort operators and others, including, of course, the travel agents who will sell a considerable part of the business and make arrangements for the travelers.

Importance of Speed

The importance of speed was stressed by Robert S. Ramspeck, executive vice president of the Air Transport Association, who said in his ASTA speech:

"To those for whom time is important, we (the airlines) have an indispensable service. Because of this fact, it is our opinion that the traffic of the scheduled airlines will continue its steady expansion—not only in 1951 but for many years to come."

He said it was his belief that the greatest single potential market for the travel agent is in the sale of independent and advertised air tours to "the vast and relatively untapped mass of people who get an annual paid vacation, but whose vacation time is limited to two or three weeks.

"With a vacation air tour," the ATA official declared, "they will be happy because they will spend more time where they want to be and less time en route. And when the vacationer spends more time at the vacation hotel, or resort, you get more commission from the hotel or resort operator, in addition to the 10% on the air portion of the tour."

Ramspeck said the airlines are making every effort to reach that relatively untapped market with their national and local advertising campaigns stressing vacation and pleasure air tours, and are trying to bring that market to the travel agents for clinching by including in their advertisements the tag-line "See Your Travel Agent."

As evidence of the confidence the airlines have of increased business in 1951 and the future years, the ATA official pointed out the U. S. scheduled airlines now have on order for delivery in 1951 and 1952 a total of 148 multi-engined transports valued at $127,000,000.

International Air Market

Wayne W. Parrish, editor of AMERICAN AVIATION Publications, told the more than 800 ASTA delegates that there's a great deal ahead for travel agents if they will but take advantage of the facilities and services now available, particularly in international air transport.

He said he could foresee a $10,000,000 commission market for travel agents in this country alone on sales of international air transportation, and an annual potential of $15,000,000 in such commissions in the immediate future. And these figures, he pointed out, do not include the additional commissions agents may get from hotel business and other business sold in connection with air travel abroad.

Parrish said that in the days of the steamship monopoly in transoceanic travel, the travel agent could offer his services only to those who had the time as well as the money to travel, whereas today there are plenty of people who have the money but not the time.

"I look on the airplane as a means of opening up entire new travel markets rather than as competition for steamships," he said, adding that while the airplane obviously does not have the luxury and comforts of the steamship, "the ability to hop overnight between here and Europe, or in less than 24 hours to Buenos Aires, has a terrific appeal to a great travel market where time means money."

NO CHARGE for the First Billion Miles

You don't pay extra for Braniff experience and safety. They're yours without charge . . . yet Braniff's background of 22 years, and more than one billion passenger miles flown in complete safety, add much to your travel enjoyment.

All that you could ask for—really more than you can imagine—in speed, comfort and niceties of service is yours, too.

Braniff's famous "El Conquistador" flights to Cuba, Panama, Lima, Rio and Buenos Aires are the last word in luxury aloft. With deep-cushioned, reclining seats for daytime lounging, cocktails or cards and bed-size berths for nighttime, with gourmet meals and music, this is truly travel de luxe. Extra-fine, extra-fast, but *no* extra fare.

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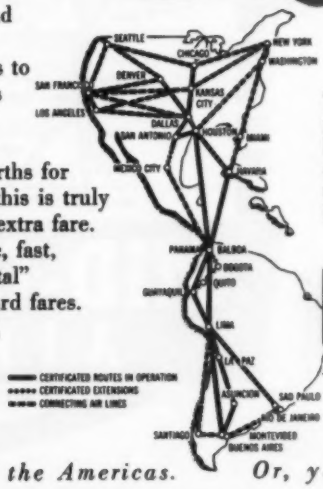

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AIRLINE PEOPLE

ADMINISTRATIVE

Otis F. Bryan has resigned as executive vice president of Philippine Air Lines to become president of the George Muehlebach Brewing Co., Kansas City. **Edward T. Bolton,** vice president-operations, has been named executive vice president and a director of PAL, succeeding Bryan. He will continue as operations chief in addition to his new duties.

John C. Collins, vice president-economic controls of Mid-Continent Airlines, has been granted an indefinite leave of absence because of ill health.

Thomas J. Parker has been named assistant to **Col. C. C. Sherman,** president of California Central Airlines, intrastate carrier.

Leo H. Dwerlkotte, one-time executive vice president and general manager of Western Air Lines, has opened a law office in the Bank of America Building in San Diego. He passed the California bar examination earlier this year.

Emmett Riordon has been named acting manager of public relations for Trans World Airlines in Los Angeles, replacing **James Simmons,** resigned.

Donald Keith Hall, specialist in civil aviation law, has joined the legal staff of Western Air Lines in Los Angeles.

Sven Parrild, for the past two years advertising manager of Scandinavian Airlines System in Stockholm, has been transferred to SAS's New York office, where he will be in charge of advertising and sales promotion.

OPERATIONS-MAINTENANCE

John C. Leslie, vice president of Pan American World Airways, who is recuperating from an attack of poliomyelitis, has been moved from the hospital to his home at 8 Murray Hill Road, Scarsdale, N. Y.

Robert Walquist, formerly chief of station ground service for United Air Lines at Cleveland, has been named station manager at Bradford, Pa., succeeding **J. W. Fitch,** resigned.

E. K. Henderson has been appointed station manager for Pioneer Air Lines in Waco, Texas. **A. E. (Swede) Johnson,** former assistant station manager at Albuquerque, has replaced Henderson as station manager at Tucumcari, New Mexico.

TRAFFIC & SALES

William H. Fritz district sales manager in Trans World Airlines' Denver office for the past two years, has been appointed to the new post of district agency and interline manager in Los Angeles. **Herbert A. Stancil,** formerly district sales manager in Wichita, succeeds Fritz in Denver, and **John S. Winchell,** Paris district sales manager for the past three years, takes the Wichita post.

Morgan

Robert J. Morgan, Orient sales manager for Northwest Airlines for over two years, has been named European sales director for the airline, with headquarters in London. He replaces **B. J. Talbot,** recently assigned as Hawaiian sales manager (AMERICAN AVIATION, Oct. 30). **J. P. Farrell** has been named acting Orient sales manager.

Thomas G. Stevenson has been promoted to district sales manager in Boston for Northeast Airlines, replacing **Robert D. Gilman,** resigned. **Alfred S. Walker, Jr.,** succeeds Stevenson as Boston station manager, while **Edward W. Lucas,** former assistant station manager in Boston, goes to Worcester to replace Walker as station manager.

Lawrence A. Nichols has been named manager of Western Air Lines' new province sales district in Alberta. He formerly was station manager at Edmonton.

Thayne MacDonald has been appointed assistant to the district sales manager for American Airlines in Chicago. Prior to joining AA in 1946, he operated a travel desk for a Chicago hotel. **R. Morgan Lyman,** formerly outstate representative for American's Detroit office, has been transferred to the Chicago office as sales representative.

Robert Burke has been appointed district sales manager for The Flying Tiger Line in Philadelphia, the same post he formerly held in Buffalo.

Peabody

William J. Peabody, for the past four years district sales manager in Paris for American Overseas Airlines, has been appointed to head National Airlines' new European sales office in Paris. **Mrs. Maureen Pestchansky,** an experienced Paris airline representative, will assist him.

Frank Kirchberg has been appointed district manager of passenger sales for American Airlines in Los Angeles. He joined the company in 1937 and recently had been district manager of passenger sales in Chicago.

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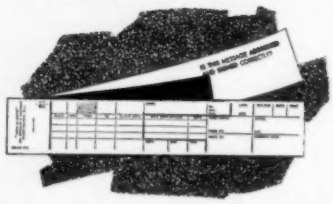

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Airline Commentary

By Eric Bramley

RALPH DAMON, president of TWA, was the most popular person at the banquet given by the International Air Transport Association during its recent annual meeting in San Francisco. When introduced, he said: "I can't make the best speech tonight, but I can make the shortest. I'm glad to be here."

•

Walter Thompson, the public relations director of Canadian National Railways, retired last month after 36 years with the company and its predecessors. Although primarily in the railroad field, he was known and liked by many in aviation because until about a year ago he handled public relations for Trans-Canada Air Lines. We've said nice things about Walter before—he was one of the most capable and best-liked pubrel men in the business. To give you an idea of the esteem in which he was held, the Archbishop of Canterbury wrote to him upon his retirement: "There are just a few people in the world who ought to be endowed with immortality since they could then do forever a job which nobody else could ever do so well, and you are one of them." Some U. S. airlines could benefit from the thoughts that Walter expressed upon leaving the company: "A public relations department cannot do u job . . . unless the chief executive understands what this department can do for the company and what the requirements are to enable the department to render maximum service. I have had executives outside our railway ask me to recommend someone to handle public relations for them, and I always ask them how long it has been since they have had a talk with the public relations man they already have on the job. Sometimes the answer is that they have never talked to him or, if at all, then not for several months. You can't get performance out of a public relations man by treating him as an outsider. He must be taken into the executive's confidence; must know from inception what is going on in the way of future plans so that, if any of these plans involve advance public relations effort, that effort may be undertaken at the proper time . . . The preparing of releases . . . is not the primary function of the public relations department . . . The head of the department ought not to be overburdened with detailed operating responsibilities. He ought to have an opportunity to look out the window from time to time and clear his mind about what people are thinking about his railroad, and see that the management of the company has the benefit of his reflections."

•

Have you ever gone to an airport to meet someone and tried to get information from the ticket counter when scores of passengers were checking in? If so, you'll appreciate this story that Northwest Airlines tells on itself. The impatient visitor to the terminal building at Madison wanted to know when a certain flight would come in so he could meet a friend. But there were two flights on the ground, another was coming in, and things were really busy. People were standing several deep around the counter. Shortly afterward, a telephone rang, an agent answered it, and a voice inquired, "When will flight 219 arrive?" The agent gave the information. The impatient visitor had put in the call from a telephone booth only a few feet away. This is a valuable tip. Remember it.

•

One more story about Northwest. The company reports that it had an unusual passenger recently. A Pullman conductor, in full uniform, bought a daylight coach ticket from Spokane to Great Falls. He'd overslept and wanted to catch up with the Great Northern's Oriental Limited. Amusing part is that some of the passengers thought that NWA had hired conductors for its coach flights.

U. S. Domestic Airline Revenues & Expenses for August, 1950

Airlines	Total Operating Revenues	Passenger Revenues	Mail Revenues	Express Revenues	Freight Revenues	Excess Baggage Revenues	Non-Scheduled Transport Rev.	Total Operating Expenses	Aircraft Operating Expenses	Ground & Indirect Expenses	Net Operating Income
American	$ 10,996,637	$ 9,370,248	$ 477,018	$ 224,592	$ 670,080	$ 105,256	$ 23,932	$ 7,720,867	$ 3,770,656	$ 3,950,211	$ 3,275,770
Braniff	1,390,792	1,120,092	190,768	27,856	36,952	11,498	3,792	1,090,235	520,357	569,878	300,557
Capital	2,768,936	2,211,220	216,645	68,762	132,438	16,395	74,846	2,421,017	1,133,807	1,287,210	347,919
Caribbean	68,085	47,960	13,797	. . . .	2,635	381	542	72,719	30,437	42,282	-4,634
C & S	777,677	568,361	154,879	18,401	17,594	6,310	7,518	719,177	283,176	436,001	58,500
Colonial	458,482	335,702	110,470	2,990	4,639	3,335	480	418,975	198,652	220,323	39,507
Continental	548,275	401,349	120,491	3,764	11,121	3,299	791	492,487	232,338	260,149	55,788
Delta	1,530,285	1,249,003	147,570	29,033	61,895	14,034	19,393	1,395,598	695,898	699,700	134,687
Eastern	5,796,082	5,189,016	254,417	135,698	104,090	72,196	14,278	5,649,554	3,094,625	2,554,929	146,529
Hawaiian	379,152	320,101	2,534	9,452	22,900	3,762	13,316	309,337	129,864	179,473	69,815
Inland*	311,693	240,323	61,355	1,954	4,752	2,846	. . . .	235,338	112,759	122,579	76,355
MCA	732,732	530,303	158,100	3,504	10,747	5,243	13,429	662,324	303,299	359,025	70,408
National	1,189,661	844,036	148,063	5,629	52,635	14,066	93,199	1,176,354	563,371	612,983	13,307
Northeast	776,335	612,073	135,932	8,338	11,646	5,283	1,667	593,849	280,901	312,948	182,487
Northwest	3,446,435	2,960,239	253,573	63,276	122,121	21,988	1,544	3,194,352	1,672,098	1,522,254	252,082
Trans Pacific	103,133	85,496	. . . .	142	1,281	1,056	12,842	99,455	38,552	60,903	3,678
TWA	7,018,328	5,976,850	496,325	190,893	221,614	65,366	28,918	5,994,650	3,148,348	2,846,302	1,023,678
United	9,441,374	7,352,466	623,421	266,966	464,543	81,131	57,873	8,313,491	3,044,391	3,769,100	2,627,883
Western*	1,126,697	991,583	70,333	14,145	14,826	7,216	21,460	881,536	431,524	450,012	245,161
TOTALS	48,860,791	40,906,921	3,635,691	1,080,895	1,968,514	445,661	394,820	39,941,315	19,685,053	20,256,262	8,919,477

* Operations of Western and its subsidiary, Inland, should be considered as consolidated, although reports are filed separately as shown here.

NOTE: These figures are taken from monthly reports filed by the airlines with the CAB. The data are tentative and subject to later change.

U. S. International Airline Traffic for August, 1950

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor %	U. S. Mail Ton-Miles **	Foreign Mail Ton-Miles	Express Ton-Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane-Miles	Scheduled Miles	% Scheduled Miles Completed
American	8,802	6,875,000	10,044,000	68.45	9,901	3,036	1,014	116,663	852,962	1,331,619	64.05	200,738	181,598	100.00
Amer. O'Seas	15,990	22,619,000	34,649,000	65.28	187,755	57,575	247,260	. . . .	2,946,300	4,487,975	65.65	691,359	734,306	89.46
Braniff	2,270	4,621,000	11,459,000	40.33	8,860	1,690	. . . .	111,749	569,049	1,612,943	35.28	266,293	266,310	99.99
C & S	1,918	2,426,000	5,495,000	44.15	2,639	334	. . . .	50,336	304,091	658,025	46.21	143,530	144,138	99.58
Colonial	3,277	2,686,000	3,800,000	70.68	515	442	. . . .	3,300	287,183	456,725	62.88	73,076	55,189	99.61
Eastern	1,387	1,442,000	3,180,000	45.35	8,021	. . . .	. . . .	15,099	175,193	384,623	45.55	64,480	64,480	100.00
National	8,292	2,236,000	3,693,000	60.55	1,075	. . . .	23,364	. . . .	250,746	479,017	52.35	66,621	64,976	99.23
Northwest	5,549	11,613,000	16,845,000	68.94	183,639	22,657	17,260	498,668	1,956,335	2,638,197	74.15	544,123	480,074	99.86
Panagra	8,678	9,099,000	18,759,000	48.50	28,177	17,800	128,477	. . . .	1,171,928	2,480,728	47.24	496,287	493,955	100.00
PAA														
Latin Amer.	69,080	61,059,000	88,349,000	69.11	220,883	61,626	1,753,569	53,012	7,988,743	12,892,652	61.96	2,367,130	1,949,808	99.64
Atlantic	16,464	35,305,000	44,985,000	78.48	278,302	59,799	631,773	2,122	4,853,136	6,685,423	72.59	1,079,043	1,040,047	98.63
Pacific	7,322	23,993,000	34,597,000	69.35	483,548	47,689	555,521	. . . .	3,425,377	5,184,821	66.07	761,694	771,030	96.86
Alaska	5,966	6,154,000	8,369,000	73.53	35,085	. . . .	368,816	. . . .	1,044,561	1,766,852	59.12	262,085	216,216	93.94
TWA	13,710	38,285,000	63,340,000	60.44	240,499	98,002	. . . .	455,351	4,982,016	8,527,800	58.42	1,494,663	1,425,286	98.19
United	4,850	16,779,000	19,599,000	85.61	49,369	. . . .	. . . .	1,021,921*	2,707,592	3,488,053	77.62	566,170	168,000	100.00
TOTALS	173,555	245,192,000	367,163,000	66.78	1,738,268	370,650	3,727,054	2,328,221	33,515,212	53,075,453	63.14	9,077,292	8,055,413	97.96

* Includes 19,706 ton-miles of army mail under military contract.

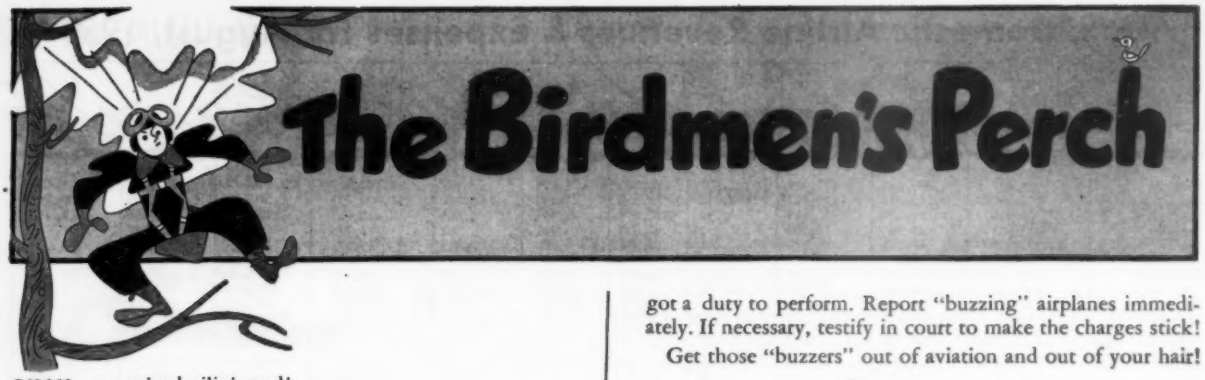
** Includes air parcel post.

NOTE: Data in above tabulations were compiled by American Aviation Publications from monthly reports filed by the airlines with the Civil Aeronautics Board. Figures for American Airlines include that carrier's service to Mexico but not to Canada; for Braniff to South America; C & S to South America; Colonial to Bermuda; Eastern to Puerto Rico; National to Havana; Northwest to Orient and Honolulu, and United to Honolulu. Operations of U.S. carriers into Canada are included in domestic reports to CAB, in accordance with CAB filing procedures.

U. S. International Airline Revenues & Expenses for August, 1950

Airlines	Total Operating Revenues	Passenger Revenues	U. S. Mail Revenues	Foreign Mail Revenues	Express Revenues	Freight Revenues	Excess Baggage Revenues	Non-Scheduled Transport Rev.	Total Operating Expenses	Aircraft Operating Expenses	Ground & Indirect Expenses	Net Operating Income
American	$ 387,682	$ 338,260	$ 7,417	$ 5,660	$ 346	$ 22,509	$ 5,156	$	$ 335,343	$ 178,572	$ 156,771	$ 52,338
Amer. O'Seas	2,681,519	1,964,281	342,585	103,789	112,864	. . . .	18,313	41,429	2,183,831	1,288,403	895,428	447,689
Braniff	543,297	336,354	169,343	3,944	. . . .	28,971	5,484	. . . .	519,240	255,012	264,228	24,057
C & S	315,129	160,634	129,869	918	. . . .	17,459	5,394	. . . .	272,353	114,244	158,109	42,777
Colonial	158,339	148,775	5,497	1,405	. . . .	676	395	. . . .	131,513	55,983	75,530	26,826
Eastern	71,495	62,227	5,542	. . . .	. . . .	3,290	436	. . . .	78,788	37,556	41,232	-7,293
National	159,437	145,619	6,881	. . . .	1,231	4,096	1,612	. . . .	130,802	53,508	77,294	28,635
Northwest	1,438,914	694,110	470,081	36,250	5,568	196,678	6,955	11,253	995,227	468,278	526,949	443,687
Panagra	1,275,838	818,249	303,486	62,718	43,535	. . . .	28,166	2,526	1,179,362	563,318	616,044	96,477
PAA												
Latin Amer.	5,127,565	3,508,028	680,835*	168,090	564,065	. . . .	79,551	48,953	4,715,863	2,128,577	2,587,286	411,702
Atlantic	4,214,513	2,679,587	1,041,789*	126,955	253,728	. . . .	39,455	52,743	3,571,354	1,718,276	1,853,078	643,159
Pacific	2,320,565	1,543,169	419,900*	102,943	215,288	. . . .	8,817	. . . .	1,907,009	1,226,506	680,503	413,556
Alaska	502,804	304,329	33,997*	. . . .	83,501	. . . .	950	79,814	464,316	230,548	233,768	38,488
TWA	4,446,443	3,117,847	775,827	219,072	. . . .	185,955	49,597	114,259	3,597,968	1,887,032	1,710,935	848,475
United	1,428,524	461,380	36,861	. . . .	. . . .	18,585	2,229	894,082	1,188,575	809,393	379,182	239,949
TOTALS	25,022,064	16,282,849	4,429,910	831,744	1,280,126	478,219	252,510	1,245,099	21,271,544	11,015,206	10,256,337	3,750,522

* Represents company's estimate of amount which should be received in accordance with the terms of the Civil Aeronautics Act when permanent rates are established. Estimate exceeds temporary rates in effect by $76,585 for Latin American Division and $232,598 for Atlantic Division. Temporary rates in effect exceed estimate by $560,500 for Pacific Division and $129,953 for Alaska Division.



OKAY—so we're boilin' mad!

Just read some CAB figures on "buzzing" accidents and they're just too sickening to repeat. All of which makes us

wonder why that super-idiotic category known as "buzz-boys" don't become *Kamikaze* pilots. They'd stand a better chance.

"Buzzing," taking chances at low altitudes, is by all odds the stupidest, most dangerous thing a pilot can do. You not only risk your own life, but the lives of others, your plane, and damage to other property!

In short, the so-called "buzz-boy" is a menace—arch enemy No. 1—to the perpetuation and advancement of aviation and all that it stands for.

As a flyer or aviation enthusiast, you've got a duty to perform. Report "buzzing" airplanes immediately. If necessary, testify in court to make the charges stick!

Get those "buzzers" out of aviation and out of your hair!

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Federal Airport Funds Cut; Administration Buildings Hit

By KEITH SAUNDERS

NEW airport administration buildings are to bear the major part of the sharp cut in the 1951 Federal Airport Program ordered by the Budget Bureau.

The revised program, released November 8, covers 186 projects and provides for Federal-aid grants to the amount of $24,838,910 and sponsors' funds totaling $26,184,708.

Funds provided for the construction of buildings total only $10,472,331, instead of the $14,882,848 that had been set up for such projects prior to the revision.

Some cities will still get funds for new administration or terminal buildings in this year's program, but many others will get no Federal funds or a much smaller amount than they had hoped for.

Surviving Projects

Among the fortunate ones are: Memphis, which will get $680,000 toward a $1,360,000 building; Greater Pittsburgh Airport, which will get $250,000; Philadelphia International, which will get $200,000, Phoenix Sky Harbor, which will get $212,000; Miami International, which will get $281,853; Knoxville, which will get $150,000; Stapleton Field, Denver, which will get $370,000; Worcester, which will get $200,000, and Bradley Field, Windsor Locks, Conn., which will get $430,000.

Also escaping the ax were: Rochester, N. Y., which will get $200,000 in Federal funds toward $400,000 in building costs; Knoxville, which will get $150,000 toward a $300,000 building project at McGhee-Tyson Municipal; Houston, which will get $250,000 toward a building; Oklahoma City, which will get $50,000 toward a building at Will Rogers Field and $50,000 toward one at Tulakes Municipal No. 2; and Charlotte, which will get $105,000 in Federal funds for a new building at Douglas Field.

Cincinnati is in luck, having had a $100,000 Federal grant for land acquisition for the new Blue Ash Airport tacked onto the second revised program. Cleveland, which was to have received $200,000 toward an $800,000 improvement program at its municipal airport, had its figures upped to $275,000 on a $1,100,000 program and also got $125,000 for improvements at the Lakefront Airport.

Fort Worth was not included in the first program but appears in the second with projects totaling $1,980,000 for work at Greater Fort Worth International Airport. One project is in the sum of $800,000 for first-phase construction of an administration building at the new field.

Milwaukee was in the original program for $1,400,000 of improvements at General Mitchell Field, including $1,250,000 for a building, with the government to furnish $700,000 of the total costs. These figures were cut in the revised program to $1,000,000, $850,000 and $500,000, respectively.

New Orleans had a $750,000 building for Moisant International included in the original program and $150,000 for a building at New Orleans Airport. The former was deleted in the revision, and the latter was upped to $218,200, of which the government will pay half. Sioux City, originally slated to get $150,000 in Federal funds toward a new building, was cut back to $50,000.

Cities which had hoped to receive Federal aid this fiscal year toward new buildings, only to see the buildings cut out in the grogram revision, included: Cedar Rapids, Baton Rouge, Albany, N. Y., and Portland, Oregon. Also cut out was a $1,000,000 building project at Chicago's O'Hare Field.

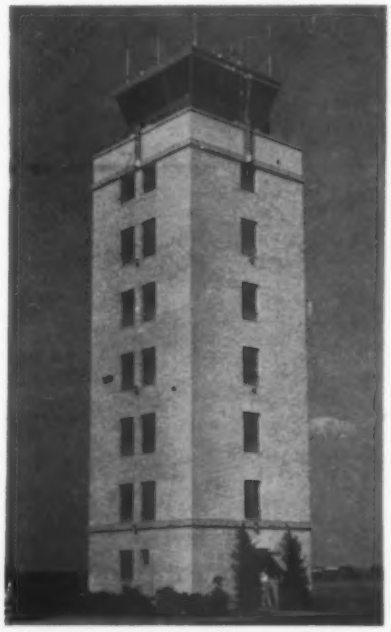
Actually, the cuts might have hurt a lot more than they will, but for the legislative provision which allows CAA to "recapture" unused funds which had been apportioned to states in a previous fiscal year. Here's the story of the cut:

In early August, President Truman sent out a directive that Federal agencies should halt or defer construction projects which would not contribute to the national defense and would be competitive with essential defense projects for labor and materials.

'51 Program Reworked

On the basis of this directive, CAA's Airport Planning Section reviewed its 1951 Federal Airport Program, which had called for Federal expenditures totaling $36,700,000, and began to earmark possible deletions. Funds for the construction or improvement of some 138 smaller airports were taken out of the program, as well as funds for certain construction regarded as non-essential at other airports.

When this had been done, the program for the fiscal year covered



Tulsa's Tower—New eight-story control tower at Tulsa Municipal Airport, which went into operation October 27, is designed by Airport Manager Charles W. Short, Jr., as "Tomorrow's Tower Today." Air conditioned steel and brick structure cost $130,000 and will be plugged as a model for control towers around the country. Architectural design was by Leon B. Senter of Tulsa, and the contractor was G & W Construction Company of that city.

226 projects, involving $30,025,430 in Federal funds. Included was $3,799,406 in government funds for development or improvement of 97 smaller (Class 1, 2 or 3) airports, and $26,226,024 for Class IV or larger airports.

It would have provided $6,441,558 in Federal and sponsors' funds for land acquisition at 50 sites, $14,882,848 for buildings at 96 sites, $1,654,125 for high-intensity lighting at 28 airports, and $38,454,600 for site preparation, runway and taxiway paving and other field improvements at 205 sites.

About the time CAA was ready to release this program, the blow fell. The Budget Bureau, directed to cut $550,000,000 from the budgets of civilian agencies, sent word over to CAA that its airport program for fiscal 1951 would have to be cut $15,500,000 — from the $36,700,000 originally budgeted down to $21,200,000.

Second Slicing

CAA's planning section went to work again, cutting out a marginal new airport here, trimming down the amount of Federal aid for an access road there, and deferring terminal building projects where existing buildings might suffice for another couple of years.

This time they came up with a program covering 186 projects and involving $24,838,910 in Federal funds out of a total of $51,023,618. This was still in excess of the $21,200,000 budget which would have resulted from the $15,500,000 cut, but there were sufficient unexpended funds available from the fiscal 1950 airport program to make up the difference.

Where there had been 97 smaller airports and 129 large airports in the previous program, there now were 73 projects for development or improvement of smaller fields and 113 for Class IV or larger airports. The $14,882,848 previously set up for construction or improvement of buildings at 97 airports was now reduced to $10,472,331 for buildings at 67 airports.

Land Funds Cut

Funds for land acquisition had been cut from $6,441,558 to $6,006,882; funds for high intensity runway lighting had been reduced from $1,654,125 at 28 airports to $1,343,795 at 24 airports; and instead of $38,454,600 for paving and other improvements at 205 sites there is provided $32,620,610 for such improvements at 164 airports.

Basically, the cuts mean that many smaller cities not served by scheduled airlines will have to defer their plans for building an airport or improving their present airports unless they can find the wherewithal to do the job without any Federal monetary assistance, and some larger airports will have to put more of their own money into proposed new administration buildings and other improvements, or else do without them until such time as CAA can work them into its diluted airport budget.

Federal Airport Program Fund Cuts

State	Allocations After First Cutback		Allocations After Final Cutback	
	Federal Funds	Total Funds	Federal Funds	Total Funds
Alabama	$ 90,620	$ 181,240	$ 87,925	$ 186,225
Arizona	933,075	1,533,905	1,020,345	1,677,370
Arkansas	67,250	164,500	58,250	146,500
California	2,399,195	4,501,142	2,112,833	4,024,962
Colorado	595,170	1,118,400	595,170	1,118,400
Connecticut	470,000	940,000	470,000	940,000
Delaware	50,000	100,000	50,000	100,000
Florida	660,883	1,661,766	630,883	1,601,766
Georgia	902,500	1,926,000	566,000	1,252,000
Idaho	23,884	43,500	12,512	22,500
Illinois	1,940,000	4,330,000	1,260,000	2,920,000
Indiana	643,800	1,246,200	320,000	610,000
Iowa	640,338	1,354,389	130,000	248,000
Kansas	289,500	579,000	289,500	579,000
Kentucky	311,000	654,000	230,000	474,000
Louisiana	1,135,000	2,410,000	652,850	1,518,200
Maine	82,600	165,200	82,600	165,200
Maryland	275,000	1,000,000	200,000	700,000
Massachusetts	1,385,000	2,770,000	1,100,000	2,200,000
Michigan	1,516,150	3,020,300	851,650	1,657,300
Minnesota	925,500	2,216,000	549,300	1,073,600
Mississippi	No Program Submitted for Fiscal Year 1951			
Missouri	1,737,490	3,399,230	1,389,078	2,702,406
Montana	111,513	209,811	43,201	82,197
Nebraska	182,000	404,000	180,000	400,000
Nevada	56,875	94,000	63,125	104,000
New Hampshire	181,650	328,800	122,500	210,000
New Jersey	610,000	1,220,000	590,000	1,180,000
New Mexico	87,151	140,512	87,151	140,512
New York	3,270,000	6,510,000	2,295,000	4,560,000
North Carolina	158,345	330,680	158,345	330,680
North Dakota	89,600	154,900	77,600	147,500
Ohio	200,000	800,000	500,000	1,750,000
Oklahoma	467,000	927,225	413,000	822,145
Oregon	249,607	446,524	Project Deferred	
Pennsylvania	1,890,000	3,815,000	1,840,000	3,681,670
Rhode Island	150,000	300,000	150,000	300,000
South Carolina	12,100	27,200	Project Deferred	
South Dakota	11,680	22,000	11,680	22,000
Tennessee	913,000	1,826,000	913,000	1,826,000
Texas	1,742,500	3,655,500	2,200,057	4,485,114
Utah	415,954	677,417	270,355	443,235
Vermont	60,000	120,000	60,000	120,000
Virginia	287,500	620,000	260,000	565,000
Washington	No Program In		340,000	843,846
West Virginia	405,000	810,000	405,000	810,000
Wisconsin	700,000	1,400,000	500,000	1,000,000
Wyoming	No Program Submitted for Fiscal Year 1951			
Alaska	No Program Submitted for Fiscal Year 1951			
Hawaii	150,000	212,125	150,000	215,625
Puerto Rico	500,000	1,000,000	500,000	1,000,000
Virgin Islands	50,000	66,665	50,000	66,665
Total	**$30,025,430**	**$61,433,031**	**$51,023,618**	**$24,838,910**

AIRPORT NEWS DIGEST

• **Validity of the Welsbach-Bartow patents on high intensity** runway lighting will be tested in a North Carolina court. Bartow and Welsbach firms have brought suit against the Forsyth County Airport Commission, which controls Smith Reynolds Airport at Winston-Salem, alleging patent infringement. The airport body will contest the suit.

• **The revised California Airport Study and Master Plan,** now available from the Document Section, State Printing Division, Sacramento 14, presents a graphic inventory of the air transportation facilities of the state, details an airport program to be accomplished by 1955, and projects the state's airport requirements to the year 1970. Price is $2.50 plus tax.

• **Seattle-Tacoma International Airport during this month** will give to the drivers of private automobiles upon their arrival at the airport a small folder giving a thumbnail description of the airport, a listing of its facilities and services, and the locations of public conveniences. Earle S. Bigler, manager, says 10,000 of the folders will be distributed in November as a public relations and advertising gesture.

• **Pacific Airmotive Corp. on November 3 formally dedicated** the former Cal-Aero Airport, which it will develop into a large airframe overhaul base.

• **Willis-Rose Corp., aircraft fuel dispersing agency** at New York International Airport, has purchased $140,000 worth of rolling stock, including 11 fuel trucks and refuelers of heavy-duty type. Company has been leasing its automotive equipment from Port of New York Authority.

• **Pouring of concrete on the 6,400-foot and 5,000-foot** runways at Greater Shreveport Municipal Airport was to start this week. Construction already is under way on the $700,000 administration building.

• **CAA approval is being sought on bids for construction** of a terminal building and other additions costing $189,505 at Chess Lamberton Airport, Franklin, Pa.

• **Omaha Improvement Commission has approved construction** of a concrete parking apron in front of the airport administration building. Cost will be about $92,000.

• **Contracts for $158,000 of preliminary work** in the $960,000 airport expansion project at Cedar Rapids, Iowa, have been let. Bond issues totaling $585,000 to finance city's share of total project cost were sold recently, and CAA has agreed to furnish remainder.

• **Grandview Airport at Kansas City is to be expanded.** City has appropriated $46,750 for purchase of 153 acres of land to be used for lengthening the N-S runway to 8,500 feet, and approval is being sought for proposed purchase of an additional 593 acres to make a further addition to the field.

• **Massachusetts Aeronautics Commission has made** an allocation of $87,500 toward construction of an administration building and other improvements at Fall River Airport. City and Federal funds will boost the available sum to $350,000.

• **A $79,689 contract for taxiways, grading** and other improvements at the Williamson-Johnson Airport was awarded to A. A. Bodin & Sons of Duluth, Minn.

• **A contract for engineering work on the project** Mercer County Airport at Bluefield, W. Va., has been let to Airways Engineering Consultants of Washington.

• **Greater Shreveport Municipal Airport has been adopted** as official name of new airport soon to be built at that city. Old field will be known as Shrevetown Downtown Airport.

• **Aberdeen, South Dakota, has dedicated** a $125,000 Aviation Memorial Administration Building at its municipal airport, which on the dedication date was formally named Saunders Field, honoring Brig. Gen. L. G. Saunders, USAF (ret.).

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TOPICS

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J. W. Miller, President of Mid-Continent Airlines, chats with G. B. Van Dusen, President of Van Dusen Aircraft Supplies. Mid-Continent, serving 29 cities in the mid-west, relies on Van Dusen for many supply items.

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AIRPORTS

Authority Trend Spreading; Cities Share Airport Costs

BECAUSE the tax structures of many cities and counties are inadequate to meet the high costs of constructing and maintaining a modern airport, there is a marked trend toward dual, triple or even quadruple sponsorship of airports.

When this happens, experience has shown that the logical thing to do is to set up an Airport Authority to handle the job of operating and developing the jointly-owned facility. There are a number of such agencies in being today, and they are becoming more numerous. An interesting example of this is the Lehigh-Northampton Airport Authority, which operates the Allentown-Bethlehem-Easton Airport.

This airport, one of the finest non-metropolitan fields in the east, serves one of the largest industrial and marketing areas in Pennsylvania. The authority, which came into being after the airport had suffered reverses under several successive managements, was designed to eliminate competition between five communities—three cities and two counties—by building a centrally located airport, sufficient and adequate for their needs, instead of a series of smaller fields.

Built by Private Group

The field was built 20 years ago by a private group, the Allentown Airport Corporation, which rented it to several operators, all of whom experienced financial difficulties. Furthermore, the field itself suffered from lack of proper maintenance and lack of adequate facilities.

Then, in the mid-1930's, the city of Allentown was induced to take title to the airport so that it would be eligible to apply for improvement funds from the Work Projects Administration. The city, in turn, leased the field to the Airport Corporation for 99 years and turned the management over to an airport commission composed of the mayors of Allentown and Bethlehem, the president of the board of county commissioners of Lehigh County and the president of the Allentown Airport Corporation.

After ten years of operation under

Eliminates Trucks— Northwest Airlines recently completed this pit-type fueling installation at its base at Wold-Chamberlain Field in Minneapolis. Eight pits similar to this one, each equipped with micronic filters and sensitive water detectors, are located under the five aircraft parking positions. Each unit is capable of delivering 200 gallons per minute as compared to the 60-gallon-per-minute rate of NWA's previous mobile truck units. Pits eliminate the use of these mobile trucks, provide better service and require only one man per pit to operate.

this set-up, during which time a million dollars of Federal and local funds was spent on the airport, the government balked on providing any more money for development of the field on the grounds that the Airport Commission was under no control of the Federal government and had no legal status.

Authority Formed

This development led to a recommendation in 1945 that an airport authority be formed to operate and develop the field, and the cities of Allentown and Bethlehem and the county of Lehigh completed organization of the Lehigh Airport Authority on October 1, 1946. When Northampton County and the city of Easton joined the Authority in 1948, the name of the field was changed to Allentown-Bethlehem-Easton Airport and the name of the managing group was changed to the Lehigh-Northampton County Airport Authority.

Here's how the Authority operates:

Appointments to the authority are made by the counties and municipalities on a non-political basis from lists of persons suggested by the chambers of commerce. All members are outstanding citizens and businessmen in their respective communities and serve on the authority without pay. Each community appoints three men for a term of three years, and appointments are staggered.

The board members appoint the airport manager, the solicitor and the auditor, all of whom are paid for their services.

The Authority meets once a month and in addition there are frequent meetings of the five operating committees—the committees on management, finance, public relations, operations and construction.

Airport Master Plan

One of the first and most important actions of the Lehigh group was the development of an airport master plan, first stage of which called for provision of revenue producing space. Started in late 1948 and completed late last year was a million-dollar terminal building providing much-needed space for the airlines, a control tower, restaurant, observation deck and concessions.

Other projects in the first stage of construction were an airline loading apron, an access road and improved electrical and water distribution systems. Individual hangars were built on a self-liquidating basis with a loan from a local bank.

In 1946, the cities of Allentown and Bethlehem and the county of Lehigh each made an outright grant of $5,000 for working capital to start the authority off. Since then all operating funds have come from airport revenues.

Fixed base operators on the field pay a base rent for the space they use in addition to a percentage of their gross business. The airlines serving the field pay landing fees and base rent for office and counter space. The airport restaurant is operated on a concession basis. Individual hangars are leased to personal aircraft owners. Non-scheduled operators, the Civil Air Patrol and the Pilots Club are other sources of revenue.

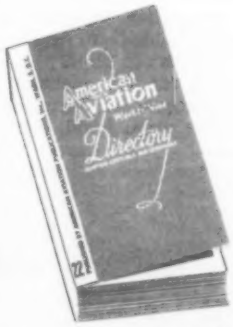
The Bethlehem Steel Company has taken an interest in the airport since the authority was created and has built a hangar, a taxi strip and a concrete ramp at a total cost of $100,000. The company has exclusive use of the hangar for 20 years, but the hangar is the property of the authority and the company pays a ground rental of $1,000 a year for its use.

The field is still operating at a deficit, which is met by the authority, but it is moving steadily toward a pay-as-you-go footing. The authority is confident it will attain that status in the not-distant future.

CAA AIRPORT GRANTS

For the two weeks ended October 13, Federal-aid airport grant offers totaling $953,338 were made by the Civil Aeronautics Administration to 27 communities (airport classes in parentheses), as follows:

Alabama: Van de Graaff Field, Tuscaloosa (4), $71,900.
Colorado: Durango-La Plata County Airport (3), $33,000.
Connecticut: New Haven Municipal (4), $166,667.
Georgia: Muscogee County, Columbus (3), $1,250.
Kentucky: Hazard Airport (1), $42,000.
Michigan: Alma Mun. (1), $9,500; Owosso Mun. (2), $69,500; Pellstop-Emmett Co. (4), $27,500.
Minnesota: Grand Marais Mun. (1), $37,000.
Mississippi: Union Mun. (1), $2,715.
Missouri: Hornersville Mun. (2), $20,000; Kansas City Mun. (4), $122,000 and $163,750 (two offers); Grand Glaize Airport (1), $14,385.
Nebraska: Harrison Mun. (1), $15,538; Hartington Mun. (1), $5,745; Scribner State Airport (6), $13,500; Stuart Atkinson Airport (2), $6,000; Wahoo Mun. (1), $15,125.
North Dakota: Rugby Mun. (1), $1,100; Stanley Mun. (1), $4,500.
Ohio: Toledo Mun. (3), $5,500.
Oklahoma: Enid Mun. (5), $2,930.
South Dakota: Faith Mun. (1), $10,927.
Texas: Jones Field, Bonham (2), $23,182.
Vermont: Barre/Montpelier Mun. (3), $50,000.
Washington: Bellingham (4), $9,624.
Wisconsin: Madison Mun. (5), $8,500.



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LOCAL OPERATIONS

Oklahoma's Student Air Excursions...

... revenue source for local operators

A PLAN that shows the way for wide-awake flight operators to tap a rich new source of potential revenues is the Educational Air Excursion plan of the Oklahoma Aviation Commission.

Set up on a plan that is practical and workable, the excursions are open to students of all grades and therefore make potential flight time purchasers of a sizable percentage of the more than 26,000,000 boys and girls enrolled in the nation's public schools.

The excursion plan was worked out by Harold D. Weatherly, education specialist of the Oklahoma Aviation Commission, and is based on the best features of similar excursions previously operated at the laboratory school of the Education College of the University of Oklahoma, at Flat Rock Junior College and at Stephens College, Missouri.

The project at the University's grade school, taught by teacher trainees, was conceived to improve the students' reading and writing, the thought being that a plane trip would afford something interesting and stimulating for them to write about and also would encourage them to read more about aviation. Over a hundred students have flown once and many more have flown a second or third time.

20-Minute Flights

Teachers in the school are now correlating social studies, English and some science with the air excursions. Covering a 50-mile area in about 20 minutes, the students see Tinker Field, Oklahoma City, Will Rogers Field, industrial plants, oilfields, rivers and the effects of soil erosion and land management.

At Stephens College, the flying field trips, as they are called, are now so routine that more than 300 girls take them annually. Four-place planes carrying three students and a pilot-instructor are used for the trips. Written instructions and photographs prepare the students for the trips, and the plane gives them an opportunity to see from the air the things they talk about in their botany, geology, geography and social studies classes.

Harold Weatherly saw no reason why air excursions could not be worked out by any teacher whose school is at all near an airport. Accordingly, he and Dr. Garold D. Holstine, director of the University School, worked out a plan for educational air excursions for all grades. Flight operators and educators were enthusiastic about it.

Tried Last Spring

Limited operation of the plan was tried out by a few operators in the closing weeks of the last school term, and large-scale operations are now being worked out. The ground for teacher cooperation was laid at aviation education summer workshops at the State University and the six state colleges concerned with teacher training.

In a bulletin to flight operators, the Aviation Commission suggested that they be sure that teachers and school administrators have copies of the Department of Education bulletin, "Air Age Education in Oklahoma " before approaching them in regard to the excursion idea. This bulletin points out the objectives of the Air Age Education program and gives the teachers ideas to work on in conjunction with air trips.

Second step is for the operator to approach the teachers in the schools of his immediate area, hand them a copy of the leaflet "Educational Air Excursions for All Grades," and indicate his desire to cooperate with them in the project. The operator is urged also to invite a teacher or several teachers to make a survey flight as his guests.

It is recommended that a four-place plane be used for the excursions, since the cost of the flight can then be divided between three students. Operators are urged to set a reasonable rate, but in no case quoting a below-cost figure. A charge of $2.50 per student for a 50-mile flight is suggested as reasonable, although this might vary according to the equipment operated.

Pre-Flight Activities

Weatherly suggests that a time schedule be worked out for the flights, and some activities planned to occupy the students who are on the ground awaiting their turn to go up. When feasible, it should be arranged for the students to talk to the airport manager or a pilot during these waiting periods. It is desirable to keep them close to the landing area, which won't be difficult since the plane and the friends returning from

(*Continued on Page 68*)

Excursionists— Eighth-grade students at the University of Oklahoma grade school grin in anticipation just before takeoff of an Educational Air Excursion flight tying in with their classroom work.

For Local Operators

At NATA Annual Convention

ST. LOUIS—The flight from Washington to the **National Aviation Trades Association's** 11th annual meeting in St. Louis was a rough one. Over the Blue Ridge mountains and across the hills of Kentucky and the midwest flatlands, the Cessna 170 was as much up as down in the gusts.

Carl Allen of **Springfield, Va., Airport** had started the flight critical of Beech Aircraft's recent publication on *Standing Waves*, which warns pilots of waves of air flow of a given pressure which can form over mountains, causing altimeter error and sometimes carrying the plane along. "It scared half my students so they won't go near a mountain," Carl complained. But a couple of hours later, caught in a downdraft on the downwind side of the highest Blue Ridge range, the rate of climb instrument was reading 2,000 feet per minute down with power on and climbing attitude—and Carl looked as though he was reconsidering.

All in all though, it was a good flight out. The gas stop at **Huntington Airport,** W. Va., took us into one of the best-maintained small airports I have seen. Asked how business was, the elderly man at the coffee counter answered, "Well, sometimes 'tis and sometimes 'taint." But there was a substantial line of privately owned planes in front of the office, and, whether or not they had business, they had paint. Everything shone. And the wind T swung in a conspicuous spot on the office roof.

Fixed base operators from most states were at the St. Louis convention, discussing the aviation business in and out of meetings and making plans for the coming year.

New Officers

John Griffin of **East Coast Aviation,** Bedford, Mass., whose organization sprayed some 400,000 acres of Massachusetts woodland last year was elected the new NATA President. And **Bob Northington** of Piedmont Aviation, Inc., Winston-Salem, N. C., was elected Eastern vice president; **Edward Garbacz** of Arkansas was elected Western vice president; and **Walter Laudenslager** of Red Bank Airport, N. J. was elected treasurer.

Other officers unanimously elected to head the industry aspects of fixed base operations were: *training*—**Joseph Hance,** Hance Flying Service, Wyandotte, Mich.; *transportation*—**Joseph Garside,** Wiggins Airways, Inc., Norwood, Mass.; *agriculture*—**Bill Marsh,** Marsh Aviation, Inc., Phoenix, Ariz.; *insurance*—**Sam Freeman,** Somerset Air Service, Bedminster, N. J.; *miscellaneous*—**Martha Ann Woodrum,** Woodrum Flying Service, Roanoke, Va.; *finance*—**John Wilson,** Ill.; *airports*—**Ken Brugh,** Hawthorne Flying Service, Jacksonville, Fla.; *sales and service*—**Frank Shelton,** Arizona; and *repairs and maintenance*—**B. G. Vandre,** Van's Air Service, St. Cloud, Minn.

Charles Parker was commended for his work in Washington for the past year and will remain as NATA executive director. The outlook for the organization in the next year seemed to most of the operators to be good, with part of the credit for holding the fort during the bleakest period in private aviation going to Parker and part to the operator members who have been working hard, together.

Resolutions

The following resolutions, which concern every fixed base operator, were passed by the convention:

1. CAA should reconsider its approval for straight-in airline approaches and require all aircraft to conform to local traffic patterns at airports not equipped with control towers.
2. CAA should thoroughly survey and consider the needs of private aviation before discontinuing low-frequency range stations, in view of present low-altitude limitations and discrepancies in omnirange reception.
3. NATA is opposed to CAA's present program of curtailing airway beacons, which are valuable navigation aids to private aviation.
4. CAA and the Federal Communications Commission should establish the proposed VHF local airport frequency.
5. NATA will take all possible action in 1951 to assure the passing of the Airmen Training Act and of the Air ROTC legislation now in Congress.
6. An NATA committee shall make a study and draft a standard form of "operator's guarantee of used aircraft," for use by operators who agree to stand behind the used aircraft they sell, similar to used car guarantees.
7. Coast and Geodetic Survey is urged to restore the 33-1/3¢ discount on quantity orders of flight maps.

NATA's work of the past year has been an achievement for an industry which, it was said, "is the only depressed industry in the United States today." As **Bob Northington** of Piedmont Aviation, in North Carolina, pointed out, establishment of the National Air Taxi Conference to provide air taxi service in lightplanes between airline terminals and off-airline communities holds good prospects for the small fixed base operator. The Air Traffic Conference, representing the airlines, has recently approved the interline agreement which will become the standard form for individual operator-airline ratification. Since the air taxi plan has been coordinated in advance with the airlines, Northington said there should be no difficulties in getting the agreements by the target date of January 10.

Insurance Plan

The "merit rating" insurance plan which has now been worked out by NATA with two companies—American Mercury Insurance Company (AMERICO) of Wa., D.C. and National Insurance Underwriters (NIU) of St. Louis, Mo., was explained by **Sam Freeman** of New Jersey. NATA has had both companies investigated by an impartial insurance analyst to make sure they had adequate re-insurance agreements and offered coverage on a par with other companies at lower rates. An operator's insurance rate depends on his record for the prior three years. "The only mistakes he pays for are his own."

Airman Training Act

John Griffin urged operators to get behind the Airman Training Act, which NATA was instrumental in having introduced in Congress. "An information release will go forward to you very shortly. As soon as it is received, each state NATA chapter president should organize a planned campaign to solicit as much support as possible within his state, and to make sure that every Congressman and Senator is contacted and acquainted with the necessity for this legislation. Undoubtedly we can also secure widespread support for the bill from colleges and universities. They carry a lot of weight."

Air ROTC Bill

Concerning the Air ROTC bill to provide flight training and screening of Air ROTC cadets while they are in college, Griffin stated that the NATA training committee has been trying to get it and the Airman Training Act reported out of the Armed Services Committees of Congress. However, some Congressmen want the bills held up until a completely integrated plan for procuring and training airmen is adopted.

'Golden Opportunity'

But training plans and insurance rates had nothing to do with the note on which the convention ended. **Joseph Geuting, Jr.,** of the Personal Aircraft Council, Aircraft Industries Association, expressed it when he said the present war emergency officers "a golden opportunity to not only keep civil aviation flying and growing but to make it more widely appreciated and understood. Get busy. Talk to your Chambers of Commerce, your civic clubs, your local newspapers. See that civil aviation is understood in your community."

—BARBARA J. WARD

NEW

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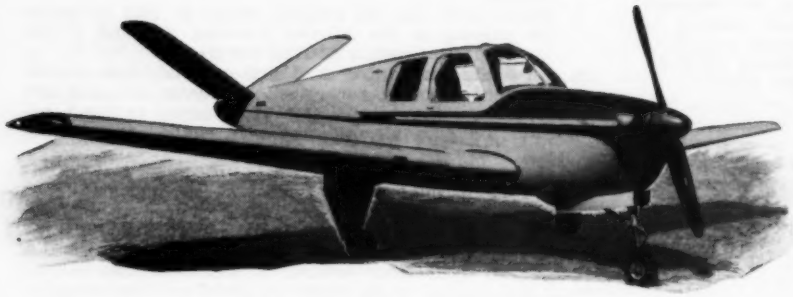

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LOCAL OPERATIONS

(*Continued from Page 66*)

the flights will be their major interest.

The plan stresses the importance of briefing the classes just before going to the airport or on arrival there, so as to warn them of the dangers around an airport, of the safety practices to be observed, and of the possible consequences of certain actions.

The pilot plays a key part in the plan, for in the air he will be the teacher, pointing out the various things the students should note. He should not talk over the students' heads and should keep explanations simple and free from technical terms. He should try to sell the ease of flying and should particularly avoid abrupt maneuvers, since most of the passengers will be taking their first flight and the aim is to sell them, not scare them.

Weatherly

Holstine

It is most desirable that the student take a favorable report on flying to his parents who, in many cases, may be watching the plane from the ground. Older students might be permitted to fly the plane briefly at the dual controls, for some of them may thus become encouraged to take up flight instruction.

Teacher Planning

The excursions require planning and preparation on the part of teachers, for the flights will serve no educational purpose unless they can be tied in with classroom activity. The teacher should start by making a study of the surrounding area both from the ground and from a current aeronautical chart, which can be purchased for 25c at the airport.

Pilots and residents of the community can be helpful in suggesting things to be observed. After making a general determination of places and things to see, the teacher should have the pilot fly him or her over the proposed route so that notes may be made and the length of time of the trip be determined. After this, teacher and pilot should discuss the objectives and revise the flight plan to meet the time requirement and to show better the principal points.

When this has been done, the

teacher is ready to prepare a Parents' Information Slip and Consent Blank, which will inform the parents of the planned activity, state the cost of the trip, and show that the parents have consented that their child make the flight. The teacher should also prepare, for use in the plane and as a take-home souvenir, an outline of the things to be observed on the flight with a rough map of the excursion area on the reverse side. These, of course, can be mimeographed.

It is Harold Weatherly's feeling that any responsible flight operator who actively promotes the Educational Air Excursion plan in the schools of his area can develop a business that might run into hundreds of hours of revenue flight time per year. And in addition to the direct revenue from the flights, the students may be counted upon to advertise flying by word-of-mouth among their families and friends, some of whom will be potential customers for flight instruction, charter flights or a personal plane.

Educational Air Excursions such as those operated in Oklahoma, if promoted extensively enough and with sufficient intelligence, might well be a means of giving the business of fixed-base operators a real "shot in the arm."

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WINGS OF YESTERDAY

25 Years Ago

Orville Wright accepted the chairmanship of the Advisory Committee for the Daniel Guggenheim School of Aeronautics of New York University.

•

S. A. Cisler was appointed General Superintendent of the Air Mail Service succeeding Carl F. Egge, who was transferred to the Western Division.

•

KLM, Royal Dutch Airlines, was trying to sell its whole fleet of airplanes in order to organize services on an entirely new system using craft of more practical design and requiring less maintenance.

10 Years Ago

(In AMERICAN AVIATION)

The airlines of the U. S. were awarded the Collier Trophy for outstanding service to aviation during 1939 in recognition of their high record of safety in air travel.

•

Aviation manufacturing employment increased 400% in the two-year-period between September, 1938, (28,700) and September 1940 (118,800).

•

United Air Lines announced the air transport industry's first employe pension plan.

LETTERS

Excess Profit Taxes

To the Editor:

I have read with interest the editorial on page 6 of the October 30 issue of AMERICAN AVIATION. This editorial is entitled "Ruinous Tax Proposal." I agree with what you say, and hope that the airline industry will present its picture to the Joint Congressional Committee on Internal Revenue Taxation and any other appropriate Congressional Committees.

If we do have an excess profits tax law—and Congress is committed to at least vote on such a law—there is a good possibility that normal earnings will be measured by a corporation's average earnings for the years 1946 to 1949, inclusive. Any earnings in excess of these "normal" earnings will be taxed at the confiscatory excess profits tax rates. That being true, it is essential that any excess profits tax law contain relief provisions to take care of companies such as the airline companies. When such relief provision is enacted, it should spell out the measure of relief so that any reasonably intelligent person can compute it. The amount of relief should not be dependent upon some official's state of mind or opinion as to what constitutes a fair and just level of normal earnings. Having tax liability dependent in any degree upon some official's state of mind is vicious. It can only mean uncertainty.

The evil of the World War II excess profits tax law is that relief is dependent upon some person's opinion as to what normal earnings would have been had certain events occurred. The World War II relief provisions have been almost impossible of administration because of this.

The World War I excess profits tax relief was computed by using during the excess profits tax years the profit ratios of similarly situated corporations in the same industry. The only real difficulty in administering that law was to reach an agreement as to comparative companies. After such agreement was reached, the computation of relief was simple.

The mistake of the last excess profits tax law should not be repeated in any new law.

ROBERT ASH,
Washington, D. C.

Those Magic Pills

To the Editor:

Please, for gosh sakes, drop me a card with the name of the pills Mr. Parrish described in the October 16 issue of AMERICAN AVIATION. Like Mr. Parrish, my bay-window is getting so far out I can hardly get in my uniforms. Please hurry and let me know. Also, I enjoy his articles.

R. L. WELPTON,
Lt. Col. U.S.A.F.,
San Antonio, Texas.

(Editor's Note: Dr. Lederer is crying for help, says he has been flooded with mail asking for those pills. Says he is not a pill-dispenser and will give out none without personal examination. So you'll have to come to Washington, Colonel. Ye Ed reports his weight is off and has stayed off. One of Dr. Lederer's most noted new patients: Delos W. Rentzel, CAB chairman, who says his weight is coming off nicely. Another: James J. Haggerty, Jr., military editor of AMERICAN AVIATION, who is 25 pounds down and 75 to go.)

Ex-Tradeways, Ex-American

To the Editor:

We wish to call your attention to a misstatement on page 28, under Technical News Digest, in your October 16 issue.

"Robinson Airlines has purchased a Douglas DC-3 from American Airlines. The plane will be completely overhauled by Robinson prior to entry in service."

In the interest of truth may we state that the mentioned aircraft was sold by our company to Robinson Airlines. The airplane was one of our fleet of five DC-4's and four DC-3's.

JOHN D. McCORMICK
General Manager
Ocean Air Tradeways
New York, N. Y.

(Editor's Note: The original information received from Robinson stated that the DC-3 purchased was formerly owned by American Airlines. However, Ocean Air Tradeways was the later owner which sold the plane to Robinson.)

BOOKS

JET PROPULSION—TURBOPROPS, by Volney C. Finch, Professor of Mechanical Engineering, Stanford University. Published by the National Press, Millbrae, Calif. 255 pages. $5.00.

This book ranks as one of the most important and instructive studies of the turboprop engine in its various forms and is also a timely and welcome textbook and manual for the student or engineer. It is a good reference book on detailed design—there is, for instance, a large section devoted to the art and science of turbine blading and there is also a clear method of calculating compressor and turbine efficiencies.

In addition the author has managed to obtain from Westinghouse, Wright, Metrovick and other manufacturers design studies and data which almost certainly has never been published before. The diagrams are clear and the photographs well chosen—of all the various pictures of the Proteus turbine, for instance, the author has chosen one showing the latest type of intake. The book contains a full and accurate documentation of British technique and many of the illustrations show the range of British engines in cutaway detail. There is little new about the British engines but the comprehensive record of their characteristics makes this part of the book valuable for reference.

If there is a criticism of the book it is that the two chapters on combustion do not match the standard of the compressor and turbine sections as regards scope (there is for instance virtually nothing on annular chambers), length (only 17 pages) and handling. There is also little or no information on the all-important aspect of matching, gearing and governing the propeller to the engine. But the book is a first-class product and blows away many cobwebs surrounding the science and technology of the turboprop engine.

—R. G. W.

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IN FLIGHT

A PAGE FOR ALL PILOTS

Airborne Radar

For some reasons U. S. airlines have not adopted airborne radar for commercial use. American Airlines carried on extensive research work for the Navy but has not proceeded with commercial installations. In September ATA's **Frank White**, a veteran in the airborne radar work, presented an interesting, documented report on the shortcomings of current radar equipment, urged that improvements be made and further testing carried on (AMERICAN AVIATION, Oct. 2).

Now BOAC and E. K. Cole Ltd., the company manufacturing airborne radar sets on order by BOAC, have issued a joint statement very apparently answering the White report. The joint report claims that the "experienced observer" will find no difficulty in distinguishing between the "fuzzy echoes associated with moderate rain and the smaller sharply defined echoes characteristic of cumulonimbus clouds. The latter type of cloud is the only one which produces hail."

The report further claims that "ability to ensure adequate ground clearance in mountainous regions would alone justify use of the equipment." White stated that the biggest "bugaboo" of current radar is the inability of the pilot to view the scope under average light conditions which in turn required the use of a shielding cone and sometimes the use of colored filters over the window.

The BOAC-Cole report concludes: "The normal British flying practice is for one pilot to study the screen while the other flies the aircraft. Thus the visor is no disadvantage."

As observers, with no axe to grind, we can't help but ask: What is this pilot doing in today's airplanes which do not have radar? The claims which we hear, and believe are justified, indicate that during marginal weather conditions that both pilots are somewhat occupied.

—W.D.P.

Eau de Burnt Rubber

One of the most common descriptions used in reference to the Curtiss-Wright Dehmel Trainer and similar advanced trainer types introduced in postwar years has been that "they reproduce everything but the smell of burning rubber as the tires strike the runway."

In a recent bulletin from the Flight Safety Foundation Jerry Lederer suggests that different types of odors be introduced into Link and Dehmel trainers to familiarize the crews with potential hazards such as that of leaking hydraulic fluid, smoke, etc. In an emergency in flight this would permit the crew to recognize the foreign odors instantaneously.

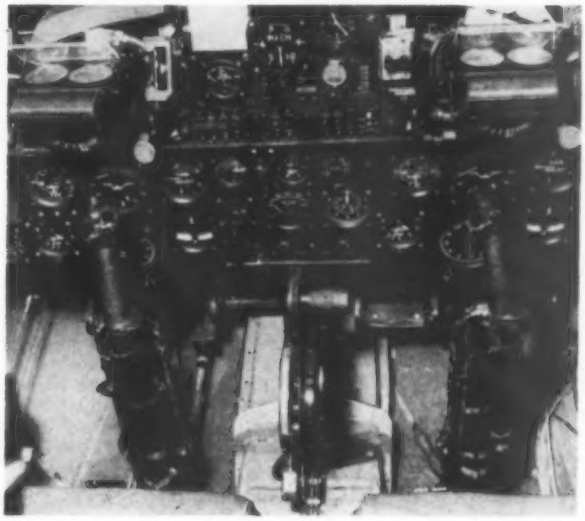
New Goodyear Duck

The new model Goodyear GA-22 Duck is being offered to the Navy for island communication in remote areas. It is similar to the Duck which has been flying for many years except that the new model has wheels which retract into the inner wing instead of into the fuselage side, thus making the cabin four-place. It has slotted flaps, a Continental engine 45 hp more powerful (185 hp) and a Hartzell reverse pitch prop for moving on the water. The cross-wind landing gear, leading edge slots and the new and improved planing bottom are all retained.

It is difficult to give a precise opinion without trying it, but the fine-out over the water with flaps seemed just as easy as we remember it with the earlier flapless models. The approach speed has been greatly reduced. After touching down the boat rides well on the step and when it splashes down into the swell, spray does not cover the windshield. With the prop idling in forward pitch the boat does edge forward at a knot or two—a disadvantage the Duck shares with nearly all flying boats. A slow 180° turn can be done in what we guess to be just over three spans, but a turn starting from a speed of a few knots and using the water rudder can be done in less than three spans. The boat can be steered while moving backwards in reverse pitch. There is no undue tendency to dig a float in while turning.

When taking off the boat gets into the step quickly and it seems controlable throughout the run. The stall warning—which is in the form of an audible buzz—is particularly effective in this installation. The Duck is a well-proved little amphibian with many years and flying hours of development. In its latest form it seems to combine good water characteristics with improved practicability as a light transport.

—R.G.W.



Vampire Trainer—First picture published in U. S. of the dual controls in the DH 115 de Havilland Vampire trainer. It is to be used for weapon training, as shown by the dual gunsights, and for decklanding training by the British Navy which uses Sea Vampire-20 day interceptors in service. Flight instruments are duplicated and engine instruments mounted centrally. Notice the workman's file on the floor near the right hand stick placed just right to block the controls.

Old-Timers

Three pioneer pilots who had a hand in flying TWA's first all-air passenger schedules between Los Angeles and New York 20 years ago (Oct. 25, 1930) are still checking at TWA's operations base in Los Angeles, although two have different responsibilities. They are: Joe Bartles, now director of operations for the western region; H. G. Andrews, now a flight dispatcher, and Ted Weaver who is still flying as a TWA captain. The all-air service of 1930 required an overnight stop at Kansas City, and $3.50 for the hotel room was hooked onto the $200 charged for the ticket.

I really shouldn't be here if the truth were known
As a sprite
I'm no fright.

But the GHOST OF CHRISTMAS PAST
You see
Is me.

But even though last year's gifts may now be
Mostly
Ghostly,

You can give a gift this year that your friends
Will seek
Each week.

Gift subscriptions to AMERICAN AVIATION begin with
A certificate
That's terrificate.

The gift card in this issue will end
Your worry
In a hurry.

Beaucoup Baggage. Our TWA inaugural press flight left London on a Sunday morning after taking in all of the hospitality which **Charlie Yates,** TWA's energetic district sales manager for the U.K. had provided. An entire BOAC bus was needed to carry the baggage to the airport. If you don't think newspapermen can buy things like other tourists, you have another thought coming. London was just the

start. We had over 130 pieces of baggage then and the total kept rising with each stop.

Our Connie whisked us to Frankfurt so fast that I can't remember seeing anything except a glimpse of the English Channel. Just as we neared Germany we ran into rain, just about the only rain on the whole trip, and **Capt. Orme Gove** gave us a swell demonstration of GCA by switching the ship radio onto our loudspeaker system. The GCA boys at Frankfurt and Berlin are experts and Orme Gove is no slouch as a pilot, so it was plenty interesting to hear the instructions from the ground for very slight alterations in our glide path. GCA is one of the great blessings of our time.

✣ ✣ ✣

Gracious Kelly. And perhaps here is a good place to list the other members of the crew who were with us for 17 days. Relief pilot was **Paul J. Kelly,** first officer was **F. R. Ruege,** navigator was **R. M. Mansfield,** flight engineers were **Ernest Larsen** and **E. R. Marshall,** radio operators were **C. M. Cummiskey** and **F. R. Czapanskiy,** the hard-working pursers who never seemed to lose their sense of humor despite their passengers were **Henry L. Shepherd** and **Noel D. Martin,** and the hostess, God bless her, was **Mary Ellen Kelly,** a very gracious and efficient gal who won the hearts of everyone on the trip.

Rhein-Main Airport at Frankfurt was a very calm place compared to the last time I had seen it when it was the focal point of the Berlin air lift. No rows of C-54's being loaded with coal and supplies, no lines of trucks waiting to move up, in fact there was just the usual smattering of military equipment around the field. The main passenger terminal has been painted up and we were given a little reception by local city officials.

My room in the Frankfurterhof, in downtown Frankfurt, once one of Germany's great hotels, looked out over some blocks of ruins. Part of the hotel had been destroyed, including the main staircase and elevators, so we had to walk up to our rooms on the 3rd and 4th floors. But the Frankfurterhof is the best hotel in town and boasts the best food in that part of Germany.

✣ ✣ ✣

Briefings. After checking in I took a long walk, first down to the main railroad station and then through the business and nearby residential areas. I had been in Frankfurt several times in 1945 right after the war and the streets leading to the railroad station were piled with rubble and most of the shops destroyed. Today Frankfurt shows the results of quite a facelifting. There are still vacant blocks of rubble, much of it still uncovered, but there are many hundreds of shops filled with all sorts of consumer goods and food. The people are fairly well dressed. Frankfurt is again a bustling city.

Our group had three "briefings" in Germany, one by the U. S. military staff at Heidelberg, another by the U. S. commanding officer in Berlin, and a third by the U. S. civilian staff headed by **John J. McCloy** in Frankfurt. Apparently it had been well agreed in advance that we were to be given no real information. The runarounds by our own officials were the most boring and detailed that I've ever heard anywhere. There is nothing more frustrating than to waste time listening to a "briefing" when the briefer has decided that he won't give any information other than (1) his own propaganda line in which you can obviously place little faith and (2) the entire session is taken up with an elementary description of the duties which he is supposed to perform and which you pay for in taxes and which have no news value whatever.

✣ ✣ ✣

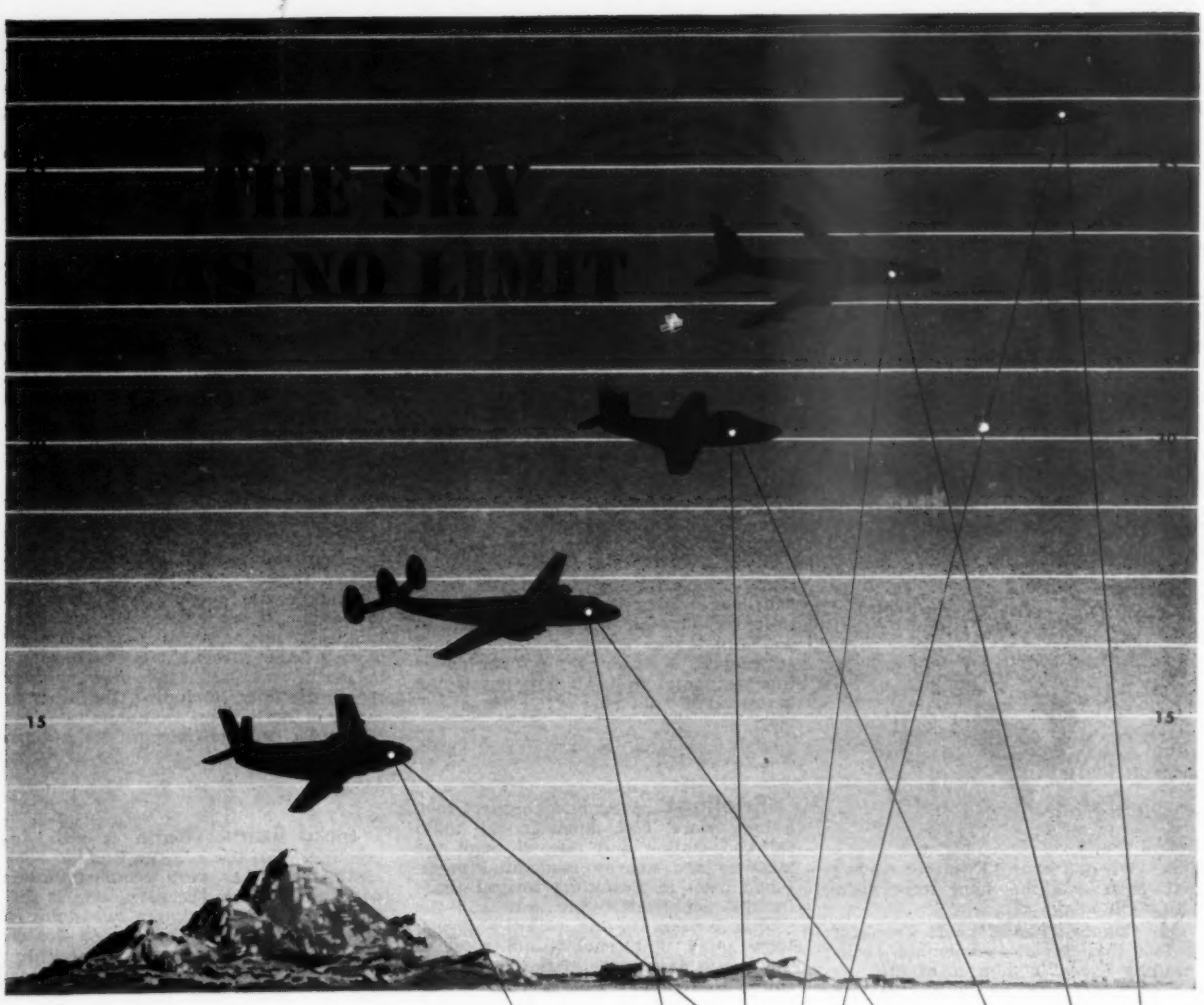
Over the Curtain. The trip to Heidelberg from Frankfurt had one compensation. That was the ride in a special diesel train, also paid for by you, my fellow taxpayers. But it was a swell train and our group had it all to ourselves. As for Heidelberg, the gods conspired that we were to be whisked through the place in such a way that we could see nothing of the charm of this fine old-world town. We did have lunch at an old castle overlooking the city and the views were excellent from there.

But the flight to Berlin was a high spot on the trip, although the time wasted in our "briefing" by the U. S. commander there could have been put to better use by letting our group at least get out and walk a few blocks down a main street. It was a fine day in Berlin and Capt. Gove flew us over the entire city, including the Russian sector of Berlin, and we flew quite near the main Russian airport in eastern Berlin.

✣ ✣ ✣

Neat Ruins. Berlin is still depressing. This oasis in the Russian zone of Germany has very tenuous outlets with the west, so reconstruction is difficult. But the Berliners are doing a fine job of making their ruins neater, of cleaning up the streets, and opening up shops. Even the subway system and its trains have been painted up. The spirit of the people is excellent. Their complexions are poor and clothing mediocre, but they are getting ample food and they have their chins up. They are staunchly against the Russians. In this fifth visit to Berlin since the end of the war I felt more encouraged about Berlin and its future than on previous visits, but it is a change from hopelessness to hope, not a change from poor to good.

Met an old friend at Tempelhof Airport, **Dick Pears,** who used to be with Braniff and who played an important role in the Berlin air lift. Now he is administrator of Templehof for the U. S. State Department. He has plenty to do because Templehof has more buildings on it than any airport in the world, even today. Pan American is flying eight DC-4 trips a day each way between Berlin and Frankfurt and a few other airlines also come in there in addition to a sizeable military traffic.



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Based on a solid background of precision engineering experience, Stratos is producing supercharging units and refrigerating packages to fit the requirements of our newest and fastest aircraft and is developing new equipment for those of the future.

Many of today's fast jet fighters are cooled by efficient, compact Stratos units. Stratos compressors are being put into a considerable number of our modern transports, both as original equipment and as replacements for less efficient, older installations. Because of their low maintenance requirements and long periods of service between overhauls, Stratos systems are being used in more and more military and commercial aircraft of all types.

Stratos air conditioning and pressurization units are always at work — helping to extend the frontiers of the Air Age, proving that the sky has no limit.

Air cycle cooling package

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Other Divisions: Fairchild-NEPA Div., Oak Ridge, Tenn. • Fairchild Aircraft Div., Hagerstown, Md. • Fairchild Engine Div., Guided Missiles Div., Al-Fin Div., Farmingdale, N.Y.

(*Continued from opposite page* 3)

Brig. Gen. **Henry C. Kristofferson,** who was with Pan American World Airways prior to active duty recall, will revert to civilian status. MATS' Continental Division at San Antonio, Tex., will take over direct control of the Pacific lift. A MATS spokesman said that even if lift is stepped up again, Continental Division will be able to handle it.

AF Construction Projects: Emphasis is on Alaska in list of Air Force construction work for current fiscal year, with $26,141,000 to be spent on Eieilson AFB and $14,841,000 on Ladd AFB. Most of funds will be for quarters of all types plus shops and storage facilities. Other projects: $1,796,800, airfield pavement at Travis AFB, Fairfield, Calif.; $7,550,000, access railroad and armament engineering test facility, Eglin AFB, Fla.; $60,000, control tower and security fence, Campbell AFB, Ky.; $7,924,416, parking aprons, communications and electronics facilities, quarters, etc., Limestone AFB, Me.; $315,336, airfield pavement, Selfridge AFB, Mich.; $2,329,000, pavement and quarters, Great Falls AFB, Mont.; $300,000, quarters, Offutt AFB, Neb.; $782,000, electric whirligig facilities, Wright-Patterson AFB, O.; $495,000, ammunition storage, Carswell AFB, Tex.; $348,337, runway extension, McChord AFB, Wash.; $3,987,000, crash fire station, operations building, control tower, hospital, quarters, Larson AFB, Wash.; $3,455,000, pavement and quarters, Spokane AFB, Wash.

AIRLINES

Policy on Feeders: In a policy-setting decision, Civil Aeronautics Board has ruled that costs of a feeder-line after its certificate has expired will not be made up through mail pay. Decision involved Florida Airways, whose certificate expired and was not renewed. Florida asked $36,781 post-expiration costs, which CAB disallowed. Government should not make up such losses without having the right to reach post-expiration profits, CAB said.

Cal Eastern Pays Off: California Eastern Airways has returned to full control and possession of its stockholders following full and final payment on its obligations with interest. As result of the $155,126 payment, the proceeding under Chapter XI of the Bankruptcy Act will be concluded and company will be discharged from custody of Federal Court. Since voluntary arrangement with creditors 30 months ago, Cal Eastern has paid $426,089 to unsecured creditors and reduced secured debt from $317,065 to $170,086, all from income. Since suspension of air freight operations, company has been leasing its three DC-4's and has been providing maintenance for various carriers on west coast.

Braniff Fare Raise: Round-trip Texas excursion fares have been raised by Braniff Airways to avoid cancellation previously ordered by CAB. New fares are based on 150% of standard one-way tariff, or 4.5c per mile. CAB, which has agreed to changes, called previous 4c level "unjustly discriminatory."

Training for AF: Los Angeles Airways, helicopter mail carrier, is training a selected group of qualified Air Force helicopter pilots in advanced, precision-type helicopter flying, including night and instrument work. Course includes 60 hrs. of flight plus classroom time, and plan is to enroll two trainees every 30 days for a total of 24 yearly.

CIVIL AVIATION

Top Job for Davis: **Thomas W. S. Davis,** Assistant Secretary of Commerce, has been appointed as Commerce's top representative on the Air Coordinating Committee, with CAA Administrator **Donald Nyrop** as first alternate. This is seen as an indication that Davis, rather than Under Secretary for Transportation **Phillip B. Fleming,** will have major responsibility for directing civil aviation policies of the department.

Washington Duty: CAA regional administrators are to start Washington tours of duty, to improve Washington-field coordination. **L. W. Jurden,** 5th Region, Kansas City, will work out of CAA Administrator **Donald Nyrop's** office until Christmas, and **L. C. Elliott,** 4th Region, Ft. Worth, starts a 60-day detail in January. Others will follow.

CIVIL AERONAUTICS BOARD

Longacre Appointed: **Charles I. Longacre,** who has been legislative counsel in the Air Force general counsel's office, has been named special assistant to CAB Chairman **D. W. Rentzel.** He will handle work on Air Coordinating Committee, NSRB and transport mobilization functions in general.

Actions

• **Pan American World Airways** was awarded $345,937 back mail pay for Latin American Division operations during period March, 1944, through August, 1945. Award reflects recognized commercial expenses disallowed by military when attributed by PAA to war contract operations. Also includes $72,000 allowable expenses under a joint facilities agreement between PAA and Panair do Brasil. Award brings PAA's total Latin American mail pay for period to $3,535,837.

• **Flying Tiger Line** granted additional six months' exemption to transport military cargo between various Air Force bases throughout country. Previous exemption expired Oct. 14. Air Force supported carrier's application for extension.

• **Air Cargo Express and State Airlines** turned down on application for individual exemptions to operate as large irregular carriers. Air Cargo's application was denied but carrier may appeal within 30 days. State's request was dismissed because, being a small irregular carrier, it was not eligible for authority sought.

• **Mid-Continent Airlines** granted six months' extension of exemption which authorizes it to provide free transportation to persons engaged in technical in-flight observation of Convair 240 aircraft and parts. Current exemption expires Dec. 2. New exemption is good until June 2, 1951.

• **E. W. Wiggins Airways** granted exemption to operate one daily round-trip non-stop flight between Boston and Manchester, N. H.

Applications & Petitions

• **Justice Department's** antitrust division supports application of Trans-Pacific Airlines for certificate amendment to authorize carriage of mail in Hawaii. Support, Department said, is to protect and maintain competition offered Hawaiian Air Lines by TPA. Latter claims denial of its request will force it out of business.

Examiner's Report

• **Mid-West Airlines** should be ordered to cease and desist from certain violation of pilots' wage requirements, CAB Examiner J. Earl Cox recommended. Feeder has paid less than minimum wages but was making up difference with promissory notes which bear no interest until due date Aug. 11, 1952. Such notes, Cox said, are convertible only at substantial discounts and do not satisfy "cash or equivalent" requirements of Act.

FINANCIAL

Airline

Trans World Airlines reports $5,067,471 net income after taxes of $3,363,175 in first nine months, compared with $4,538,591 in same 1949 period when there was no tax deduction. Third quarter earnings were $3,631,369 after $2,492,375 taxes against $3,808,057 net in same 1949 quarter.

Western Air Lines reports the best third quarter in its history, with net profit of $474,026, against $309,257 net in same 1949 period. Results boosted net income for first nine months of 1950 to $662,136 against $349,194 last year.

Northwest Airlines had net loss of $773,721 in first nine months of this year, compared with $1,984,104 net profit for same period last year. Although total operating revenues rose from $30,344,918 last year to $35,485,944 this year, operating expenses showed a larger increase, from $27,751,215 to $36,847,923.

Mid-Continent Airlines had $23,735 net profit after taxes in September and $243,824 net for first nine months of the year, compared with $35,797 and $263,253 profits for same 1949 periods. Nine months' operating revenues were $5,931,145, up $290,153 from last year, while expenses were up $281,728 to $5,474,603.

Pioneer Air Lines' nine-months net profit was $72,875 against adjusted net of $84,714 last year. Revenues dropped from $2,475,923 to $2,407,333 this year, while expenses increased from $2,279,815 to $2,286,346. Passenger, express, freight and charter revenues were up, but mail revenue decreased 23.34%.

Flying Tiger Line reports $608,000 net profit for three months ended Sept. 30, first quarter of company's fiscal year. Revenues for the quarter broke all company records, totaling $3,500,000, against $4,964,168 for entire 12 months of preceding year.

California Eastern Airways for first nine months of 1950 had operating profit before depreciation of $350,686 and net of $251,597 after depreciation but before income taxes. Profit after depreciation for full year 1949 was $212,435.

Manufacturing

Curtiss-Wright Corp. reported consolidated net profit of $4,962,237 after taxes for first nine months of 1950, compared with consolidated net loss before tax carryback of $954,001 for same 1949 period. Sales for the two periods were $98,009,096 and $87,821,689, respectively. In the September quarter, C-W earned $1,576,970 on $34,522,352 sales. Wright Aeronautical Corp.'s profit for nine months was $2,837,875 against net loss of $1,872,626 last year. September quarter showed $800,815 profit.

Northrop Aircraft Inc. estimates its net profit for the three months ended Oct. 31 (first quarter of fiscal year) at $685,000, against $404,600 net in same 1949 period.

Rohr Aircraft Corp. had $1,484,655 net for year ended July 31, compared with $1,233,709 in previous year.

Dividends

Curtiss-Wright Corp. declared 25c a share dividend on common stock and 50c on Class A stock, both payable Dec. 18 to stockholders of record Dec. 6.

Wright Aeronautical Corp. voted $1.25 a share dividend on common stock, payable Dec. 15 to stockholders of record Dec. 1.

Lockheed Aircraft Corp. voted dividend of 50c a share plus additional dividend of $1, both payable Dec. 15. Year's total will be $3 against $2 last year.

LABOR

Republic Votes IAM: Republic Aviation Corp. employes, in a close vote, elected to be represented by International Association of Machinists. Vote was 1,778 for IAM, 1,717 for no union representation. This will mark first time Republic has had a union. On two previous occasions, employes voted against union representation.

Two IAM Agreements: International Association of Machinists' lodge on west coast has signed wage increase agreements with Airquipment Co., subsidiary of Lockheed Aircraft Corp., and with Lockheed Aircraft Service. Airquipment agreement provides 6% raise for hourly employes and extension of present contract to October, 1952, with reopening for wage discussions only at end of a year. Airquipment also announced 6% raise for salaried non-represented employes. LAS agreement is for 10c raise and extension of contract to January, 1952. LAS salaried employes received increases in rate range minimums and maximums and $4 weekly salary boost.

Strike Ends: Strike at Anderson, Ind., plant of Pierce Governor Co. ended with signing of five-year contract with United Auto Workers-CIO. A 17c wage increase is provided. Pierce produces regulators and precision controls for jet engines.

Strike Vote: International Association of Machinists, which voted 4,956 to 446 in favor of a strike against Pratt & Whitney Aircraft Division, is setting a date for the strike. Dispute is over wages and other issues.

Boeing Offer: Seattle division of Boeing Airplane Co. has voluntarily offered a 6% wage increase, or 9c per hr., whichever is greater, to International Association of Machinists, International Guards Union of America, Washington State Nurses Association, and Seattle Professional Engineering Employes Association. Increase is effective from Nov. 1 if unions accept by Nov. 13. Boeing plans similar increase for non-union employes.

AEMCO Raise: Aircraft Engineering and Maintenance Co., subsidiary of Transocean Air Lines, on Nov. 1 gave voluntary 5c per hr. cost of living increase to hourly employes, and will also raise salaried workers. Company has 750 employes engaged in cycle maintenance and overhaul of Korean airlift planes.

IN GENERAL

People: **Robert J. Smith,** vice chairman of National Security Resources Board, has been appointed a member of the Air Coordinating Committee . . . Under reorganization and realignment of duties is Assistant Postmaster General **John Redding's** office, **Robert Burgess,** formerly Deputy Assistant for air mail service, becomes Director of Air Services, domestic and international . . . **Harllee Branch,** member of Civil Aeronautics Board from its inception in 1938 until his resignation in 1948, has been named editor of Panama City, Fla., *News-Herald* . . .

AROUND THE WORLD

SAS Reorganization: Current Swedish-Norwegian-Danish talks on reorganization of Scandinavian Airlines System are discussing proposal to form a new $28,000,000 corporation (also known as SAS) in which the Swedish airline would have majority interest. Reorganization would be designed to achieve greater efficiency, with lower costs and fewer employes. For five years, the three governments would guarantee operating losses up to $280,000.

Comets on Atlantic: **Sir Miles Thomas,** chairman of British Overseas Airways Corp., states that BOAC will probably have the jet Comet on the Atlantic by end of 1952 and may put it on New York-Nassau before that time for over-water experience. Comet starts London-Cairo service next September. Sir Miles also said BOAC will reopen New York-Bermuda with Stratocruisers or Constellations as soon as equipment is available.

First in
SAFETY
Getting urgently needed equipment and supplies to troops in difficult terrain has always been a decisive factor in warfare. Stanley Switlik and other pioneer parachute manufacturers reasoned that the materials could be dropped with properly designed parachutes. Then began the experiments with cloth and design from which grew today's cargo chutes. Thanks to this research and development, it is now possible to safely drop delicate equipment, medical supplies, food and other materials.
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A Look Ahead!

Martin Turbo 4-0-4s will set new airline standards of comfort, speed and reliability. Advanced studies indicate that the Allison T-38 Turbo-Prop engine will provide smooth, vibration-free power with unusually small specific fuel consumption.

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AVIATION PRODUCTS

American Aviation

THE AIR INDUSTRY'S PIONEER INDEPENDENT MAGAZINE

NEWS ISSUE

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a LOOK at the WEEK

Aircraft industry is watching to see how many prerogatives new USAF Air Research and Development Command will take away from Air Materiel Command, which has controlled industry for years. Chances are ARDC will rise at least to position of equal importance in plane design, development and production.

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Recent election results will reduce Democratic majority on Senate committees from 8-5 to 7-6. This will mean close battle in getting controversial legislation reported to Senate.

•

It's unlikely that excess profits tax legislation will be passed during remaining days of 81st Congress, although an attempt will be made.

•

CAB Chairman Del Rentzel has let it be known emphatically that he brooks no political or other pressures "from the White House on down"—and he has assurance of White House backing on this. He doesn't want airlines pressuring Congress on route cases, doesn't want CAB members going to White House on their own. He wants to be chairman and chief administrative officer in fact as well as name. Best guess is that he'll make it stick.

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One way that airlines may offset rising operating costs next year without raising basic fare may be elimination of round-trip discounts, family plan, other special fares.

•

Airline expense budgets will be up next year. One contributing factor is large increase in spare parts price. Some lines that have been using surplus parts since the war find that stock is exhausted, and must buy new parts at higher price level.

•

The term "feeder airlines" is about to pass into history. From now on it's "local service airlines"—more accurate and appropriate. Incidentally, there'll be no more three-year local service certificates. Minimum will be five, maybe more, to provide security, planning and new equipment purchase.

•

CAA expects to establish by mid-December procedures it will follow under new law permitting it to delegate authority to airline and aircraft manufacturing inspectors.

B-45 Jet Transport Tests

General Electric Co. is running simulated jet transport missions with a North American four-jet B-45 bomber at its Schenectady, N. Y., plant. The B-45, powered by GE J-47 engines, was assigned to GE by Air Force primarily to conduct an accelerated flight test program on the engines. As a corollary program, however, GE is simulating transport flights within a radius of about 500 miles of Schenectady and compiling engine data for use in future jet transport design. The plane is operated by GE's flight test division. Neither GE nor AF has made any announcement of the jet transport phase of the test program, stating only that a B-45 accelerated flight test program is underway.

Materials Short for Personal Planes

Manufacturers of personal executive-type aircraft will shortly be in difficulty production-wise because of their inability to secure Defense Order (DO) ratings for necessary materials.

It is probable that the lightplane makers will take steps to present their case to the Air Coordinating Committee, as did the transport manufacturers and airlines. National Production Authority now has the latter's request for priority ratings under advisement.

The personal plane manufacturers point out that production is necessary in order to keep their plants in ready condition in event of an emergency. In such an emergency, they would be expected to produce trainers, liaison planes, gliders and other equipment, and probably to do extensive subcontracting for larger plane manufacturers.

Demand Increasing

Most manufacturers of personal aircraft have indicated that they want to stay in civilian production and that they have the capacity to do it, even allowing for military business. In the past several months they have been faced with an increased demand for executive-type aircraft, while at the same time being confronted with shortages of essential materials. And Joseph T. Geuting, Jr., manager of the Personal Aircraft Council of Aircraft Industries Association, states that these shortages are steadily becoming more acute.

To make matters worse, NPA announced last week a 35% cut, effective Jan. 1, in civilian use of aluminum. This will mean that the personal plane industry will vie with producers of civilian goods for the remaining aluminum supply.

Small Items Missing

The shortages affect both airframe manufacturers—Ryan, Aeronca, Beech, Cessna, Piper and Bellanca—and engine companies—Continental, Lycoming and Aircooled Motors. In some cases, difficulty is being experienced in getting planes off the end of the production line. They reach the end of the line with small, scarce items missing, which result in sizeable delays.

Confronted with requests from all kinds of industries, NPA has indicated in the past that it must be thoroughly sold on necessity for DO's. ACC's efforts on behalf of transport makers succeeded in placing their problem before top NPA officials, and similar ACC backing for the lightplane industry would, it is believed, carry considerable weight in convincing these officials that the

CIRCULATION COPY 2

industry must be kept in healthy condition for emergency needs.

Expansion Loans Stymied

Early action is expected on establishing procedures for obtaining direct loans for plant expansion from Reconstruction Finance Corp. Lack of such procedures, despite the fact that RFC was authorized by executive order 10 weeks ago to make the loans, has stymied small manufacturers seeking to expand their plants for defense production.

Although most large aircraft companies have sufficient capacity to handle defense work, many smaller manufacturers of essential equipment are finding that expansion is necessary. Of the two types of loans established under the Defense Production Act—loans from private institutions guaranteed by the government, and loans direct from government—only the latter can be used for plant expansion. Procedures covering guaranteed loans were set up eight weeks ago by Federal Reserve System.

NSRB Sets Rules

RFC officials state that direct loan procedures must come from National Security Resources Board. NSRB, it was learned, has been conferring for the past three weeks with various government defense agencies on what machinery will be necessary to process the loans, and an NSRB spokesman said procedures will be issued in the near future. A total of $600 million is available for such loans prior to next July 1, and $1.4 billion more thereafter.

Meanwhile, of interest to manufacturers and airlines was RFC's announcement that on regular loans it was increasing interest rates to 5%. RFC also announced an increase in participation fees whereby it collects all interest collected by banks on the RFC portion of a loan in excess of 3%; application fees based on minimum rate of $10 on applications up to $10,000, one eighth of 1% of amount applied for on applications above $10,000, with maximum fee of $2,500; commitment fees at rate of one-fourth of 1% of undisbursed balance at end of four months, from date of authorization, with additional one-eighth of 1% for each additional six months extension.

MANUFACTURERS

23 Seek Liaison Order: Number of lightplane companies indicating intention or entering the Air Force liaison plane competition, which opens Dec. 4 at Wright-Patterson AFB, Dayton, O., has increased from 16 to 23. In addition to 16 companies listed in AMERICAN AVIATION News Section, Nov. 13, entries are expected from Aeronca Aircraft Corp., Middletown, O.; Mallard Air Service, Inc., Teterboro, N. J.; Emigh Trojan Co., Norwalk, Calif.; Anderson, Greenwood & Co., Houston, Texas; Regent Aircraft Corp., Henderson, Texas; Bush Aircraft Corp.; and Atlas Aircraft Co., Hemet, Calif.

An AF official has indicated that the winner will get a production order for "more than 40 planes." The plane must be able to carry pilot and three passengers, or pilot appendant, and two litter patients, or cargo as desired, in lieu of the passengers. The plane must operate at night, under limited instrument conditions, have action radius of 220 nautical miles, and 5 hours endurance at cruising speed of 110 mph.

Westland Builds S-55: Westland Aircraft Ltd., England, will build under license the 10-place Sikorsky S-55 helicopter. Sikorsky Aircraft Division of United Aircraft Corp. is now building the helicopter for the Air Force under designation H-19 and for Navy and Marines under designations HO4S. Westland has since 1947 been building, under license, the smaller Sikorsky S-51, powered by an Alvis Leonides 500-hp radial engine. Initially, the 600-hp Pratt & Whitney R-1340 will be used in the S-55, but possibility of a British power unit will be explored.

Feeder Plane: Prospects are increasingly bright for construction of a transport plane for local airline services. Douglas, Lockheed, Boeing and Convair have received specifications drawn up by the local service airlines, and all other manufacturers will get them shortly. CAB Chairman **D. W. Rentzel** has let it be known that if manufacturers don't come up with proposals, he'll go to Congress for funds.

New NSRB Office: National Security Resources Board has established a Business Expansion Office, with **Byron D. Woodside,** formerly assistant director of the corporation finance division, in charge. New office will handle applications for accelerated tax amortization by companies expanding for defense orders.

New Helicopter: Bell Aircraft Corp. has received Navy order for limited production of XHSL-1 anti-submarine helicopter, which was winner of Navy competition for an anti-sub rotary wing design. First experimental model is not yet ready for flight testing. The XHSL-1, which will gross about 13,000 lbs., will be powered by Pratt & Whitney R-2800 engine, largest engine to be used in production helicopter to date.

10,000 Workers Needed: About 10,000 new workers will be needed by Pratt & Whitney Aircraft Division during the next year to meet demands of accelerated engine production. Biggest need is for experienced tool and die makers, machinists, welders, weld testers, bench mechanics, solderers, assemblers and tube benders. P&W has hired over 2,700 workers in last nine months, and about 50 a day were hired in October. Employment hit a postwar high of 17,500 early this month.

People: **Karl L. Fickes,** former manager of Goodyear Aircraft Corp.'s airship operations at Wingfoot Lake, O., has been named manager of company's new Litchfield Park, Ariz., plant . . . **John H. Baker,** formerly engineer at Solar Aircraft Co.'s San Diego plant, has been appointed manager of company's Washington office . . . **Roy J. Sandstrom,** chief engineer of Bell Aircraft Corp., has been elected vice president in charge of engineering . . .

PLANES & EQUIPMENT

Helioplane Price Up: Price of the Helioplane has been raised $1,000 to $9,800, and another increase is probable by the first of the year. Rising cost of materials made the increase necessary. A spokesman for Helio Corp. states that the former temporary dealer commission of $400 per plane is no longer in effect, and all permanent dealership appointments are being withheld

American Aviation

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until the company can assure an adequate commission and adequate volume to permit successful sales work.

1951 Pacer: Piper Aircraft Corp. will produce its 1951 Pacer in two models, the 125 and 135, both using a 125-hp. Lycoming engine. The 135 has controllable Aeromatic or Sensenich propeller, adding about 10 mph. and giving cruising speed of well over 130 mph. at 5,000 ft. with 75% power. The Pacer will use a non-inflammable covering, Butyrate Duraclad, which is a high-gloss plastic and which prolongs the life of aircraft finish. A prototype tricycle gear Pacer, which has been flying several months, will go into production in late February. Price will be higher than present $4,295 F.A.F. base price of Pacer 125.

XB-51 Testing: The prototype Martin XB-51 three-jet ground support bomber has completed Air Force's Phase Two testing at Wright-Patterson AFB, Dayton, O.

L-19 Inspection: The first production Cessna L-19 observation reconnaissance plane has completed final acceptance inspection by Army's Military Aircraft Engineering Board.

Modified B-36: First Convair B-36 to complete modification at Consolidated Vultee's San Diego plant will be ready for test flight within a month. Early B-36's are being modernized and jet engine pods are being added by Convair.

Glide Slope Antenna: CAA engineers have developed a new "null reference" glide slope antenna system which minimizes effect of heavy snow on the glide path angle. Antenna produces change in glide path angle of only one-tenth of a degree when as much as two feet of snow is on the ground.

MILITARY

Phase Out Stops: Because of Chinese Communist intervention in Korean war, and possible need for high rate of lift to the war theater, the phasing out of commercial air carriers in the Pacific airlift has been stopped by Military Air Transport Service. Carriers scheduled to drop out of the lift between Dec. 1 and Jan. 1 will continue to fly indefinitely, and MATS has instructed that carriers' planes already removed from the lift not be reconverted to commercial use.

Emphasis on Tactical: Tactical air power, which has been criticized in Korea, is receiving new emphasis, and Tactical Air Command has been brought back to rank with USAF's other major commands. Continental Air Command, which has embraced TAC and Air Defense Command, is being split into three sections, all on major command level and all reporting to Chief of Staff Gen. **Hoyt S. Vandenburg.** Three commands will be Continental Air Command, headed by Maj. Gen. **Willis H. Hale,** with headquarters at Mitchel AFB, N. Y.; Air Defense Command, Lt. Gen. **Ennis C. Whitehead,** also at Mitchel; Tactical Air Command, Lt. Gen. **John K. Cannon,** Langley AFB, Va.

Small Heads MB: **John D. Small,** vice president of Emerson Radio Co. and who served with War Labor Board and Civilian Production Agency in World War II, has been named chairman of the Munitions Board, succeeding **Hubert E. Howard,** resigned.

Presque Isle to Reopen: Air Force states that Presque Isle Air Force Base, in Maine, will reopen Jan. 1 as a Continental Air Force base.

AIRLINES

NWA Grounds 202's: Northwest Airlines on Nov. 12 voluntarily grounded its 21 Martin 202's, and the airline and The Glenn L. Martin Co. were inspecting wing centersections. Grounding, it was said, was not connected with NWA's Nov. 7 accident at Butte, Mont. **Croil Hunter,** NWA president, said "I would like it clearly understood that there is no evidence or reason to believe that structural deficiencies contributed to our recent accidents; however, this extra inspection is to assure the company and the public that there are no structural deficiencies in the plane."

Taxes Exceed Mail Pay: Federal income tax paid or to be paid by American Airlines for first nine months of 1950 totaled $6,140,000, exceeding $4,191,918 mail pay received or due from the federal government.

Successful Meeting: Feeder airline executives held a lengthy, informal conference on Nov. 11 with CAB Chairman **D. W. Rentzel,** and described the meeting as highly successful. Rentzel was only CAB member present and emphasized that he was speaking only for himself. Officials attending expressed their views on certificate security, feeder transport specifications, route patterns, CAB procedures, etc. It was the first time a CAB chairman has held such a meeting.

Strictly Local: Although trunk airlines remain suspicious of local service airlines for fear they may want to become non-stop competitors, all local lines are ready to commit themselves by any sort of test to remain local. CAB and local lines are studying means of working up legal assurances to trunks, so that latter will be less reluctant to relinquish their unprofitable small stops. One suggestion has been a new type of certificate, another has been legislation.

Round-the-World: Pan American World Airways' round-the-world radio-telephone communications system has been completed with opening of Basra-Karachi-New Delhi link. The 19,687-mile voice radio system is made possible by 32 high frequency radio ground stations located across 16 continents and islands. The event emphasizes work of Aeronautical Radio Inc., in collaboration with airlines, in establishing the Pacific network of radio-telephone stations.

People: **Gustavo Vidal** is relinquishing his post as vice president of Pan American-Grace Airways to become vice president of W. R. Grace & Co. on Dec. 1 . . . **Melville E. Stone** has been promoted from sales promotion manager to advertising manager of Pan American World Airways . . .

CIVIL AERONAUTICS BOARD

Compulsory Interchanges: CAB ruled it has authority to compel equipment interchange operations in precedent-setting decision in Kansas City-Memphis-Florida Case. Board declined immediate exercise of authority, however, pending outcome of "voluntary" negotiations for through one-plane service between Miami and Kansas City and between Miami and Denver. It gave Eastern and Mid-Continent 60 days to agree on Miami-Kansas City operation and gave Eastern and Braniff 60 days for Miami-Denver plans. Board denied Delta-C&S interchange proposal for Kansas City-Miami and turned down Delta's request for route extension from Birmingham to Memphis.

PAA Non-Stop Blocked: Pan American World Airways' proposal to operate a 2,564-mile non-stop service between Caracas, Venezuela, and Asuncion, Paraguay, was blocked by CAB. Proposal, Board said, should be made subject of hearing and advised PAA to file formal application if it wants a hearing. PAA suspended at Asuncion in February, 1948, when Argentina cracked down on Buenos Aires-Asuncion shuttle service. Previously, Brazil blocked a Rio de Janeiro-Asuncion proposal of PAA's Caracas-Asuncion service, if approved,

would have given PAA north-south route through the heart of South America.

Actions

Wisconsin Central Airlines' motion for deferment of further procedural steps in its certificate renewal case denied by Board. Feeder wanted stay until May 1, 1951, so record would show results of DC-3 operations slated to begin soon. Board held such results for period prior to final determination of renewal case would be available to it and that delay is not in public interest. Hearing has been set for Jan. 22.

Delta, Eastern, Northwest, and Capital turned down on exemption requests to operate all-cargo flights outside limits of certificates. But applications of Delta, Eastern, and Northwest for certificate amendments to reflect same authorizations warrant early public hearings, CAB said. Carriers want authority to conduct all-cargo flights on more flexible basis than now permitted.

Midet Aviation authorized to conduct irregular operations with DC-3 aircraft to and from West Palm Beach, Fla. Registered as a "small irregular carrier", Midet needed special exemption to operate with DC-3 or larger aircraft.

American Air Export and Import Company, Miami Springs, Fla., granted 2-year individual exemption to operate as large irregular. General Airways, Portland, Oregon, was turned down on request for similar exemption but was given 30 days to appeal.

Applications & Petitions

American Air Cargo asked CAB permission to withdraw its application for all-cargo routes now pending in Latin American Air Freight Case. American Central Air indicated it would do likewise and case stands to be reduced to two-carrier proceeding involving all-cargo route applications of Skytrain Airways and Aerovias Sud Americana.

Seaboard & Western Airlines denied that agreements with Luxembourg Airlines raise issues affecting its application for international all-cargo route. Answering charges made by Pan American, S&W said it has never made any of its equipment referred to in its certificate application available to Luxair, has never engaged in foreign transportation on behalf of Luxair, and may never do so.

CAB Calendar

Nov. 27—Hearing in Los Angeles Airways Certificate Renewal Case. Washington, D. C. Examiner Ferdinand D. Moran. (Docket 3800).

Nov. 27—Hearing in Southwest Airways Certificate Renewal-United Air Lines Suspension Case. Washington, D. C. Examiner Paul N. Pfeiffer. (Dockets 3718 & 3867).

CIVIL AVIATION

NATA Insurance Plan: A merit rating insurance plan, which will allow National Aviation Trades Association members to obtain insurance coverage at rates established according to their risk record of the past three years, has been formally approved by NATA and American Mercury Insurance Co., Washington, D. C. Although not previously approved, plan has been in effect for some time and is retroactive to June 1, 1950.

FINANCIAL

Manufacturing

United Aircraft Corp. reported $9,341,533 net on $192,268,229 sales for first nine months of 1950 compared with $6,548,711 net on $161,050,751 in same 1949 period. Third quarter net was $2,090,397 against $2,953,290.

The Glenn L. Martin Co. had net income of $2,495,663 on $33,857,832 sales for first nine months of 1950, against $1,591,780 net (before special charge of $2,178,111 for increased provision for 1945 renegotiation) on $34,138,079 sales in same 1949 period. The Sept. 30 backlog was $162,000,000, up $67,500,000 over mid-year and $91,000,000 over a year ago.

Grumman Aircraft Engineering Corp. authorized a 100% stock distribution to stockholders of record Nov. 17, giving each stockholder one share for each one held. Company has 1,000,000 shares outstanding. Also authorized was transfer of $5,000,000 from earned surplus to capital, making value of the 2,000,000 shares $10,000,000.

Airline

Eastern Air Lines reports $1,746,007 earnings in first nine months compared with $1,361,136 net in same 1949 period.

Capital Airlines had $823,429 net profit after taxes on $21,487,283 revenue in first nine months of 1950, against $701,590 net on $19,805,163 revenue in same period last year.

Delta Air Lines in the September quarter reported $217,857 net profit on $4,543,702 revenue, against $94,291 net on $3,882,219 in same 1949 quarter.

Dividends

United Aircraft Corp. declared $1 per common share dividend payable Dec. 15 to stockholders of record Dec. 1.

Sperry Corp. voted quarterly dividend of 50c per share, payable Dec. 18 to stockholders of record Dec. 1, bringing 1950 dividend total to $2 a share.

Pan American World Airways voted 50c per share dividend payable Dec. 12 to stockholders of record Nov. 25.

American Overseas Airlines announced initial $9 per share liquidating dividend, payable upon presentation of stock certificates at Manufacturers Trust Co., New York.

LABOR

Raise Rejected: International Association of Machinists' members at Consolidated Vultee Aircraft Corp.'s San Diego plant have rejected 6% wage increase offered by Convair despite recommendation by negotiating committee that offer be accepted.

Raise Accepted: Aero Mechanics Union, affiliate of International Association of Machinists, voted to accept Boeing Airplane Co.'s offer of 6% hourly wage increase. The increase, affecting 15,000 workers, averages almost 10c an hour and brings Boeing's wage scale to $1.24-$2.07 an hour through 10 pay grades.

AROUND THE WORLD

SAS Plan Approved: Proposal for reorganization of Scandinavian Airlines System has been approved by the three Scandinavian airlines and will now be put up to the respective governments. The 25-year agreement involves formation of a new $28 million SAS in which ABA, Swedish airline, will have majority interest. For five-year period, each of the three nations will guarantee operating losses up to $280,000.

COMING UP

Nov. 20-21—Conference of National Aviation Organizations meeting, Shoreham Hotel, Washington, D. C.

Nov. 29-Dec. 1—Aviation Distributors and Manufacturers Association 8th annual meeting, Statler, New York, N. Y.

Nov. 30—Airport fire safety clinic, sponsored by the Committee on Aviation and Airport Fire Protection, National Fire Protection Association, Baker Hotel, Dallas, Tex.

Dec. 16—Institute of the Aeronautical Sciences 14th Wright Brothers Lecture, U. S. Chamber of Commerce Auditorium, Washington, D. C.

Dec. 16—Wright Brothers Memorial Dinner, Statler Hotel, Washington, D. C.